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ROUND TABLE CONFERENCE ON ANAESTHESIA AND ANALGESIA IN OBSTETRICS

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DR. R. A. GORDON[4]

DR. LOW: Why does anaesthesia for delivery of the child often present more than usual hazards?

DR. SHIELDS: There are several factors operating at the time of obstetrical delivery which make anaesthesia more hazardous than usual. For the mother there is the weight and pressure of the gravid uterus which interferes with respiratory movements. Quite frequently there is the danger of aspiration of stomach content because of a recent meal. For the child there is direct transference of the anaesthetic agent past the placenta, and there is often either undue prolongation of labor due to suppression of uterine muscle contraction or undue pressor effect on the child from hypertonicity of uterine muscle due to, for example, prolonged Cyclopropane.

DR. LOW: Do you agree with Dr. Shields and have you anything to add?

DR. ARMSTRONG: I would like to add that anaesthesia for delivery in obstetrics requires the services of a skilled anaesthetist. There is still too casual treatment of obstetrical anaesthetics.

DR. LOW: What agent or combination of agents do you use as a more or less routine sedative for the relief of pain in the first stage of labor?

DR. GOODWIN: In a large series of cases (1500) I have used the following more or less routine method of analgesia with on the whole satisfactory results. By this I mean adequate maternal analgesia and amnesia and no undue delay or difficulty of respiration in the newborn infant. Sodium Amytal grs. lll or Seconnal grs. lss, preferably the latter was given as the pains became well established with the discomfort of labor still able to be tolerated. At the request of the patient Demerol 100 mgs. and Hyoscine gr. 1/150 - 1/200 was given intramuscularly; the dose of Hyoscine depending on the weight of the patient.

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Occasionally gr. 1/100 would be used in patients whose weight approached or exceeded 200 lbs. The barbiturate preferably was not repeated, but the Demerol and Hyoscine (the latter in diminishing doses of 1/300 - 1/400th) were given as required. Only in a very small group was more than 200 mgms. of Demerol required though several received up to 500 mgms. In approximately 30 cases the infants' respiration was delayed beyond one minute and practically all of these came in the group where only 200 mgms. of Demerol had been employed. If respiration was not established in one minute an infant laryngoscope was used to permit removal of laryngeal mucous and with controlled oxygen pressure administered intermittently resuscitation was quickly established. Any serious resuscitation problem was related to the difficulty of delivery rather than to the sedative used. However, one rule was followed *rigidly* throughout—namely, that an anaesthetic agent was not continuously employed to full degree until the patient was ready for immediate delivery. This period of full anaesthesia was kept to a minimum of time interval. The anaesthetic most commonly used in association with this routine of sedation was Trilene given along with 75% N_2O and 25% Oxygen mixture. If Cyclopropane is used it should not be given for more than ten minutes prior to delivery. I am impressed with the value of Trilene in relation to infant resuscitation.

Dr. Armstrong: I prefer the combination of Heroin gr. 1/12 and barbiturate, either Sodium Amytal gr. 3 or Seconal gr. 1½. If a second dose of Heroin is required I might use Hyoscine gr. 1/200 - 1/15 along with it. For the terminal anaesthetic I prefer a short Cyclopropane with the addition of Ether if necessary.

Dr. Low: What do you prefer for intermittent analgesia of second stage pains?

Dr. Armstrong: Nitrous Oxide and Oxygen.

Dr. Goodwin: I like Trilene or Nitrous Oxide and Oxygen.

Dr. Low: If Nitrous Oxide and Oxygen is used what per cent of Oxygen is necessary to obviate maternal and foetal anoxia?

Dr. Gordon: The Oxygen percentage in the mixture should never be less than 25% and 50% may give adequate analgesia in some cases.

Dr. Low: What type of anaesthetic do you prefer for the normal vertex, low forcep or normal assisted breech delivery?

Dr. Armstrong: Cyclopropane and Oxygen. If difficulty in delivery proves to be more than you anticipated add a little ether.

Dr. Gordon:

1. Nitrous Oxide and Oxygen plus Trilene.
2. Cyclopropane and Oxygen.
3. In difficult cases, *e.g.*, breech, I *would* add 60 - 80 mgms. of Curare, intravenously.

Dr. Low: Do you believe low spinal anaesthesia for normal deliveries is a reasonably safe method?

Dr. Gordon: I do not. The complications of spinal anaesthesia although uncommon are much too serious to warrant its routine use.

Dr. Armstrong: I agree with Dr. Gordon. Spinal anaesthesia is much more dangerous in the pregnant than

in the non-pregnant patient. Spinal offers not only unnecessary risk to the patient but may also contribute to complications which sometimes arise later, unknown to the obstetrician.

Dr. Low: What is Trilene and how and when can it be used in labor?

Dr. Gordon: Trilene is chemically pure trichlorethylene for anaesthetic use. It is an extremely potent analgesic. In obstetrics it is useful for intermittent inhalation with second stage pains, and in association with N_2O and O_2 for all types of delivery except version.

Dr. Low: What are present day views of single or continuous caudal anaesthesia in labor?

Dr. Goodwin: Single dose caudal anaesthesia in the hands of an expert may be used in lieu of spinal. Continuous caudal even in the hands of an expert carries with it too much risk to justify its use. It is a highly specialized procedure demanding great technical care and detailed observation throughout its administration. It should never be attempted by the general practitioner.

Dr. Gordon: I agree with what Dr. Goodwin has said. Continuous supervision is a "must" if employed.

Dr. Low: What anaesthetic do you prefer for the intrauterine manipulations of:

(1) Difficult Breech—bringing down leg

Dr. Shields: Cyclopropane with enough ether to relax uterus until no further manipulation required.

Dr. Gordon: $N_2O + O_2$ with Trilene plus Curare 60 - 80 mgms. if necessary.

(2) Difficult Rotation—occiput posterior

Dr. Shields: Cyclo and Ether.

Dr. Gordon: $N_2O + O_2$ with Trilene.

(3) Internal Version

Dr. Shields: Full Ether.

Dr. Gordon: Full Ether.

Dr. Armstrong: In any cases requiring intrauterine manipulations I think it is very important to have third stage anaesthesia and all uterine contractions abolished so that the uterine muscle is relaxed.

Dr. Low: When is Curare of use in obstetrics and in what dosage?

Dr. Shields:

1. When relaxation of pelvic floor is helpful:
   (a) Manual rotation of occiput posterior,
   (b) Breech on perineum.
2. Cesarean Section—to give relaxation of abdominal wall and reduce amount of inhalation anaesthetic.
3. Dosage — 9 - 12 mgms. of D-tubarine chloride or a corresponding dose of the synthetic products.

Dr. Gordon: I agree with Dr. Shields.

Dr. Goodwin: I also agree.

Dr. Low: What anaesthetic do you prefer for Cesarean Section?

Dr. Armstrong: I usually prefer a low spinal in the hands of an expert anaesthetist.

Dr. Goodwin: I do not like spinal anaesthesia. I usually ask the anaesthetist to employ some inhalation agent such as Trilene with N_2O and O_2 or Pentothal with light Cyclopropane and Curare.

Dr. Gordon: Spinal Procaine plus minimal Pentothal for sleep. This is

a calculated risk to the mother in the interests of the infant.

Dr. Shields:

(1) Spinal Procaine conservatively managed as to dosage and level.

(2) N_2O plus Cyclopropane with Curare—with Cyclo at a minimum until the uterus is opened.

Dr. Low: With regard to spinal anaesthesia would you please outline:

(1) Indications.

(2) Contra indications:
   a. General,
   b. Obstetrical.

Dr. Shields:

(1) Indications—
   a. Prematurity,
   b. Foetal distress of any origin,
   c. Accidental haemorrhage or Placenta Praevia provided condition of the mother is reasonably satisfactory,
   d. Toxaemias because of kidney and liver damage,
   e. Mild respiratory infections,
   f. Recent heavy meal.

(2) Contra Indications—
General
   a. Shock or haemorrhage not responding adequately to therapy,
   b. Cyanosis from any cause,
   c. Diseases of central nervous system,
   d. Primary and severe secondary anaemia,
   e. Bacteraemia.

Obstetrical
   a. Intrauterine manipulations,
   b. When excessive blood loss is anticipated.

Dr. Low: What do anaesthetists believe is the best anaesthetic for delivery of patients suffering from:

(1) Heart Disease
   Dr. Shields: Cyclopropane, Low Spinal (Vag. del.), Ether.
   Dr. Gordon: Cyclo and O_2, Spinal.

(2) Toxaemia of Pregnancy
   Dr. Shields: Cyclo (Pent. induction), Spinal (Vag. del. and Caes. Section) particularly when baby is in difficulties.
   Dr. Gordon: Probably Pentothal. Spinal for prematurity.

(3) Tuberculosis
   Dr. Shields: Cyclopropane, Spinal.
   Dr. Gordon: Any inhalational agent except Ether.

(4) Diabetes
   Dr. Shields: Cyclopropane, Spinal for Caes. Sect.
   Dr. Gordon: Any inhalational agent except Ether.

(5) Severe Anaemia
   Dr. Shields: Cyclopropane.
   Dr. Gordon: Cyclopropane, Caudal.

Dr. Low: Any disagreement with these views?

Dr. Goodwin and Dr. Armstrong: None.

Dr. Low: When is Pentothal of most use in obstetrics?

Dr. Gordon: During delivery or as a complementary hypnotic during Cesarean Section under spinal anaesthesia. It is also useful in controlling the convulsions in eclampsia.

Dr. Low: I think this concludes our discussion. Thank you, gentlemen, for your co-operation.

SEMANTICS IN MEDICINE

B. H. BUCHANAN, 5T1

INTRODUCTION

It is said that medicine is both Art and Science. As an Art it is sympathetic and attempts to relieve mental and physical distress, but only as a Science can it understand and effectively treat disease. Clinical medicine, therefore, must define its terms and state its premises. Nevertheless many of us have never given more than passing consideration to such terms as Meaning, Disease, Incidence, Diagnosis, Mind, Will, Body and Treatment. It is the purpose of this article to study the influence of language upon thought, to show its importance in treating disease, and so help to encourage critical thinking.

SEMANTICS

This is the science which considers the relationships between *words* (which are symbols for thoughts), *thoughts* (which lie in our minds and usually refer to some real thing or event), and *things* (which are evidenced to us by our senses). The source of much confusion in every sphere of life is that people tend to mistake the *word* for the *thing*.

Thought ↗ ↙ ↑ Word Thing	Words and things are only related indirectly through thought; yet people often speak as though words refer directly to things.

When words are clearly defined, no misunderstanding need result. However, most words have meanings to us which are dependent upon associations which they carry; and since each of us must refer to his own experience, misunderstanding is easy.

If this is not perfectly clear in your mind, sit back for a moment and ask yourself how it is that the word "dog" has any meaning for you. "Why," you say, "because other people have taught me to use that word to refer to a certain animal." What about the word "growth"? Do you attach meaning to it for the same reason? Certainly it is a more general concept than dog, for it is an abstraction of events appearing in different contexts through time, but its meaning depends upon the definition of the events. What of an expression like "spiritual growth" then? Its meaning must depend upon definition and use; however, its practical meaning depends upon the accuracy of the observations upon which its definition is based, and upon the importance given its customary use. To many unobserving persons "spiritual growth" means little, and to others these words are heavily laden with a burden of significance; such people are prone to have rather different opinions about many things, including each other.

The key to success in understanding such matters is to ask oneself some questions. First, what does a speaker have in mind when he uses words? Secondly, has this meaning any basis in fact, or is it so "abstract" that it does not depend upon fact? If it is the latter, you must decide whether it depends upon imagination or some other source of knowledge. If you think there is another source, you must have a reliable way of recognizing it or run risk of deceiving yourself.

Such a thought process is an important duty; for the proper use of words is as essential to the thinker as the proper use of the wire loop is to the bacteriologist, and nowhere is clearer thought required than in medicine.

SEMANTICS AND CLINICAL MEDICINE

Without giving the matter much thought, many students think of diseases as having been discovered somewhat as Columbus discovered America; whereas it is apparent that a "disease" is merely an entity of mental and clinical convenience, an abstraction which results from a particular way of classifying disease which may not be the only or even the best way. For example, it is useful for different purposes to classify the anaemias both morphologically and aetiologically.

It is more often useful to reclassify disease. Hippocrates clarified the primitive thought of his time with theories which we have long since discarded; and more recently the concepts of diffuse collagen disease and stress adaptation have justified themselves by usefulness. Even so basic a concept as "Inflammation" shades into "Neoplasm" when we study Hodgkin's disease, and we cannot tell the "Benign" from the "Malignant" when studying bladder papillomata. If the intellect has become bound down by words, how difficult it is to rise above previous concepts and attain a more commanding view from a higher peak, closer to the top from which causes and relations might be seen in their true perspective.

An illustration of the sort of difficulties which may be encountered is provided by the early observations on poliomyelitis. In the middle 1800's an orthopaedic surgeon named Heine, practicing near Stuttgart, noticed certain types of palsy with many factors in common. He published an account of "Infantile Spinal Paralysis" which was generally accepted. On further pathological study the essential lesion seemed to be in the anterior horn cells of the spinal cord, and the disease was called "Acute Anterior Poliomyelitis." Some time later Medin, a Swede, demonstrated that these cases occurred in epidemics, and that patients with brain stem involvement were found associated with the spinal cases. Then Wickman, a pupil of Medin, showed that different years and epidemics saw varying degrees of involvement of the spinal cord and brain stem, although the over-all pathological pictures were similar. He called this Heine-Medin Disease. He also pointed out that such cases often manifested preliminary catarrhal symptoms, and frequently occurred in epidemic association with an acute catarrhal disease which failed to go on to paralysis; he regarded the latter as abortive cases, the present view. In England it was said that this could not possibly be poliomyelitis, for everybody knew that only the anterior horn cells were affected! And an authority in the United States said that polio was just "influenza of the nervous system"!

Semantics is important not only to those advanced students who write textbooks and classify disease. Knowledge of most diseases is in constant transition, and revision of concepts will alter treatment. For example, the effects of cortisone led investigators to suspect relationships not dreamed of before, and they were prepared to cast aside previous notions, or miss a fuller understanding and its clinical results. And this

broader view is in turn important to the physician, for only a full understanding of the factors involved can lead him to modify treatment effectively. Surely that is the purpose of our many years of education.

MEDICAL STATISTICS

Statistics are of importance to us all, and it is worthwhile bearing in mind that they are to some extent analyses of the frequency with which certain usages in symbolism occur. The writer has seen an old man, jaundiced and wasted, die shortly after coming under medical supervision. No autopsy was done, and carcinoma of the head of the pancreas went on the death certificate. It would be rash to judge from a single instance, but common sense would lead us to think that statistics are weighted on the side of the commoner diseases. "What one knows, one sees."

Similarly, reports of change in "biological properties" or "frequency" of various diseases may possibly mean that authors and physicians are changing their notions concerning these diseases, and hence diagnoses are including or shifting to similar "diseases." Medical statistics relate to symbols only, and not to things. If the symbols correspond with the things, then the statistics are meaningful; and this qualification is by no means idle hair-splitting.

DIAGNOSIS

Semantics clearly has an important bearing on diagnosis and treatment. The practitioner may find that a diagnosis, which should mean the finding out of what is wrong with a particular patient, too often may mean the pronouncement of a Name which absolves further consideration. Every student knows that he is supposed to "treat the patient, not the disease"; but because this means closer clinical supervision, with heart and head closer to the problems of disease, it is sometimes cast aside for the easier course. It is not desirable that the physician should be "sicklied o'er with the pale cast of thought, and lose the native hue of resolution," but it is highly desirable that he understands disease, not by Names, but by the Anatomy, Physiology and Pathology which are symbolized by names. Diagnosis is then much more than the assignment of a symbol.

PSYCHOSOMATIC MEDICINE

In studying psychosomatic medicine we must make certain philosophical observations and definitions, particularly on "body" and "mind."

Let us first clarify a fundamental point by an analogy in physics. Men thought for centuries that "matter" and "energy" referred to different things and that the amount of each of these in the universe was constant. In our own time, relativity studies in physics have shown that these are not separate on all scales of observation, but that masses moving at different speeds may be transformed in part or totally into energy. In other words, for Newtonian physics it was useful to consider matter and energy as distinct entities; but for further research that is not enough; concepts must be modified to account for such things as the weight of light as it falls toward a large body in its course through the heavens, and the behavior of subatomic particles in changing matter into energy. So even "matter" is no more than a useful idea which is limited to what we have observed.

For centuries men have vexed themselves over the question of whether

"matter" or "spirit" is the "ultimate reality." People well qualified to know tell us of the electrical and chemical concomitants of nervous processes; the electroencephalograph reveals a physical aspect to thought; and the same relationship is obvious to all of us in sleep, and in the Fight or Flight response which helps protect us from danger. "Mind" and "body" seem inextricably part of one another. It is the writer's belief that they are not things in themselves, that they are not as individual and distinct as our thought of them must be, but they are simply useful concepts which we have, different aspects of something which possibly has still further dimensions which we are incapable of appreciating. "Mind" and "body" are useful words, not mysteries; they have no meaning deeper than our conscious thoughts.

So when we ponder the aetiology of schizophrenia and arrive at an opinion as to whether it is "organic" or "psychogenic" in origin, we must bear in mind that these terms may well have little meaning in terms of physiology more refined than it is at present. They are useful concepts in such conditions as carcinoma or hypochondriasis, but when fine distinctions are to be made they may obscure thinking and thereby influence treatment. For example, in considering peptic ulcer there is something to be said for the basic aetiological importance of either psychic or physical factors. We might compromise with the view that both are of essential importance; or again that the fundamental disorder is in neither, but that each manifests a more primary disturbance. It is clear that with present knowledge these two alternatives have no practical difference in meaning.

How can this influence treatment? It can awaken us to the danger of treating the body *or* the mind, rather than the patient who is both body *and* mind. These concepts are given lip service, but unfortunately are absent in too great a part of our clinical teaching. One cannot turn on Psychotherapy as he would turn on oxygen; he must make it as much a part of his own attitude and therapy as oxygen is part of the atmosphere.

PSEUDOSCIENCE

Healing arts such as chiropractic and osteopathy are a direct consequence of mistaking symbols for things observed. Chiropractic teaches that disease is a result of interference with the "flow of nervous force," and osteopathy considers interference with blood supply to be the basic pathology. Both of these studies have erected an array of concepts which are fairly consistent within themselves, but which unfortunately fail to touch reality in more than a few places. It is, of course, the aim of scientific medicine to revise theories and practice continually in accordance with more refined and extensive observations, to check concepts at every possible point with the underlying reality which it seeks to represent. The concepts of pseudosciences, while covering the same territory as science, assume a very different pattern; discussion with their advocates almost always finishes in a fog of misunderstood words and impugned motives.

INDIVIDUAL RESPONSIBILITY

To the writer's mind, semantics throws interesting light on the celebrated problem of "free will." This is a term which only means something to the per-

son using it, for only he is conscious of determining his own course of action. An observer might point to hereditary and environmental factors and believe that they account for that person's activities with no recourse to "free will." But "will" is so indefinable that he who uses the word can only apply it to his own mind; only there can he realize the inner struggles by which his "will" won or lost. To treat mental disease and reform alcoholics one must deal with physical and social factors; it is useless to exhort such people to use their "will power" alone.

Following this logic one arrives at the curious conclusion that he should *act* as though he had "free will" himself, but as though everyone else is "determined" by outside forces. While this view seems in fundamental accord with the limits of our knowledge it may be thought untenable. Consideration reveals it to be a logical and useful attitude for the physician, and a charitable view of one's fellow man. One would *believe* not that he alone had "free will," but that he should act in accord with his own consciousness of responsibility and not be an incompetent judge of his patients and friends.

CONCLUSION

The limitations of diagnosis and treatment are more obvious than the limitations of our terminology. We must refine both if we are to give the patient treatment correctly laid out in a general way and tailor-made as to particulars. Then the physician can practice medicine enriched by the firmest foundations of experience and thought, the Art and Science which are one at the highest level of medical practice.

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"The engulfment of words is an old and time-tested means toward the engulfment of nations. The Communists have not been the first to put it to use, but they have been among the most successful. It took imagination of the highest order to conceive the semantic miracle in which peace means war and war means peace."

—Editorial: *Maclean's Magazine*, January, 1951.

SELYE'S GENERAL ADAPTION SYNDROME

W. J. K. SIMPSON, 5T1

HISTORICAL DEVELOPMENT

THE CONCEPT OF A DEFENCE MECHANISM, which combats the effects of external and internal stimuli, thus maintaining the body in a state of equilibrium, is not original with Selye; but he has provided new correlations, original theories, and much supportive experimental work.

Claude Bernard was aware that, to maintain life, the constancy of the "milieu intérieur" must be maintained in spite of a changing environment. Cannon put forth his theory of "homeostasis"—the preservation of this steady state, through coordinated physiological processes involving brain, nerves, heart, lungs, kidneys, and spleen. Hartman stated that, similar to the thyroid, the adrenal cortical hormone is necessary to the functioning of all cells and that it increases the resistance of tissue to infection, combats muscular and nervous fatigue, and maintains temperature and hydration. The "maladie postopératoire" of Leriche described characteristic blood chemistry and haematological changes which follow all types of severe surgery.

From ancient times, physicians have suspected that pain, starvation and other non-specific damaging agents have a curative value in addition to their damaging effects. It has also been noted that many manifestations of severe infections—such as stupor, fever, dehydration—are common to all severe types, independent of the pathogenic organisms. Wagner von Jauregg first used the therapeutic action of fever in the treatment of various psychiatric diseases; this stimulated further research concerning "non-specific therapy", "foreign protein therapy", "malaria therapy"—but there was no idea of the mechanism involved. Selye, in 1936, reported that animals exposed to various non-specific damaging agents, responded with a discharge of adrenaline and adrenal cortical hormones; simultaneously, resistance to numerous damaging agents is increased. Selye was interested in the lack of specificity of stimulus.

We have briefly mentioned the nature of the body's response to noxious influences of all types: bacterial, chemical, physical, immunological and nervous. Selye has attempted to correlate these various reactions, and has spoken of the diffuse symptom complex arising from such a correlation as the General Adaption Syndrome.

DEVELOPMENT OF G.A.S.

Selye's theory is as follows: the pattern of response to any noxious agent (*i.e.*, "stressor") is always essentially the same, irrespective of the nature of the agent. This basic response, which increases resistance to damage as such, is termed the general adaption syndrome; it occurs in addition to the specific adaptive reactions elicited by the specific agents.

The general adaption syndrome is characterized by a number of morpho-

A brief and uncritical summary of Selye's concept of the G.A.S. Much of it is hypothetical; but his work has undoubtedly added to an understanding of the body's general reaction to environmental changes.

logical and functional changes. Some of the more important ones are enlargement of the adrenal cortex, with increased hormone secretion; involution of the thymus and other lymphatic tissues; ulcers of the G.I. tract; certain metabolic changes; and differences in the resistance of the organism.

Under continued exposure to stress, the general adaption syndrome develops in three stages, each of which has two differing components — damage and defence.

(1) THE ALARM REACTION is characterized by phenomena due to sudden exposure to stimuli. Shock (the damaging phase) usually lasts from several minutes to 24 hours—there is a fall in temperature and blood pressure, depression of the nervous system, decrease in muscle tone, haemoconcentration, generalized tissue catabolism, hypochloraemia, acidosis, hypoglycaemia, polymorph leucocytosis and eosinopoenia, and acute intestinal erosions. This state is counteracted by "counter-shock" (the defence phase): there is enlargement and increased activity of the adrenal cortex; acute inversion of the thymico-lymphatic system; and a reversal of most of the above changes: hypertension, hyperglycaemia, hyperchloraemia, increased blood volume, alkalosis, diuresis, and often fever. This imperceptibly merges into the stage of resistance if chronic exposure to stress exists.

(2) IN THE STAGE OF RESISTANCE, adaption to the stimuli occurs: most of the morphological and biochemical changes elicited by the Alarm Reaction disappear. It is mainly an increased resistance to the specific stimulus, but a decreased resistance to others—it appears that adaption to one agent is acquired at the expense of resistance to other agents.

(3) THE STAGE OF EXHAUSTION is apparently the result of prolonged overexposure to a stimulus to which adaption had been developed, but can no longer be maintained. Even perfectly adapted organisms cannot so maintain themselves indefinitely. In this stage, further resistance is impossible; many of the lesions are those characteristic of the Alarm Reaction (involution of the thymico-lymphatic system, loss of adrenal lipids, G.I. ulcers); and death finally ensues.

In addition to the damage and defence as outlined above, each "stressor" also produces a certain specific action (*e.g.,* diuretics act upon water metabolism, anaesthetics upon the nervous system). For this reason, the general adaption syndrome never occurs in a pure form, but is always intimately bound up with the specific reaction to the stressor.

Agents vary in their potency as a stressor: amputation of a limb is a relatively mild alarming stimulus, causing little other than local damage, whereas extreme degrees of cold, muscular exercise or nervous strain beyond the body's endurance capacity, overwhelming infection, extensive trauma, etc., cause severe Alarm Reaction symptoms. Aside from the specific actions of the stimulus, there are certain conditioning factors (especially heredity, pre-existent disease of certain organ systems, and diet) which affect the severity of the reaction, and may even alter the course of the whole general adaption syndrome.

The functional interrelations between the various organs affected by the gen-

eral adaption syndrome are of great interest. The manifestations of damage may be mediated through nervous impulses from the affected site, or toxic metabolites elaborated at the site, or perhaps deficiencies resulting from the stress. These are the manifestations of defencelessness.

DEFENCE MECHANISMS

Defence is carried on by both of the great integrating mechanisms—the nervous and endocrine systems:

The Nervous Defence Mechanism

Impulses pass from the hypothalamus, through the autonomic nerves, to the peripheral organs: the splanchnics cause a discharge of adrenaline from the adrenal medulla; other adrenergic nerves affect their target organs directly. The effect in both cases is similar; but the sympathetic nerves have a reaction limited to certain areas or organ systems, whereas adrenaline causes a widespread stimulation. The most obvious results of nervous influences are changes in the contractility of smooth muscle. Peripheral vasoconstriction causes a rise in blood pressure, which is accentuated by an increased cardiac volume and the opening of the renal shunt. This deviation of blood from the glomeruli to the juxtamedullary region of the kidney increases the production (and perhaps decreases the destruction) of renal pressor substances (renin+?), causing a further increase in blood pressure.

There is some evidence of a simultaneous cholinergic discharge during systemic stress: this activation of both agonists and antagonists helps to stabilize the target organs, in much the same way that the action of muscular agonists and antagonists stabilizes the movement of a limb.

Although vasoconstriction and hypertension are the principal defensive responses dominated by the nervous system, the latter influences many other defensive reactions during the general adaption syndrome, *e.g.,* regulation of water metabolism (pituitary stalk and posterior lobe), blood sugar (hepatic sympathetics), blood count (splenic contraction), activity of the G.I. tract, heart and respiratory rates, and muscle tone.

The Hormonal Defence Mechanism

The chief endocrine response to stress is that involving the pituitary and the adrenal cortex. The pituitary is first alerted—there is an immediate shift in anterior lobe hormone production, the formation of those substances not essential to life during an emergency being depressed. Therefore, there is a greater secretion of A.C.T.H., at the expense of a decreased formation of gonadotrophins (F.S.H., L.H., prolactin), thyrotrophin, and possibly growth hormone.

The increased A.C.T.H. formation has profound effects on the physiology of the body. A.C.T.H. is a "gluco-corticotrophic" hormone: it causes the adrenal cortex to produce predominantly gluco-corticoids (compound F, cortisone); much smaller amounts of mineralo-corticoids (desoxycorticosterone) are produced; there is an increased excretion of 17-ketosteroids in the urine.

The GLUCO-CORTICOIDS act upon the blood count (lymphopoenia, eosinopoenia, polymorph leucocytosis); depress the thymico-lymphatic system; act upon the reticulo-endothelial system (increased phagocytosis and antibody formation), and accelerate gluconeo-

genesis. Gluco-corticoids also have some effect on mineral and water metabolism. The renal effects appear to be hyperaemia of the glomeruli, perhaps even permeability to protein and blood; heavy overdosage can produce hyalinization of the glomeruli, followed by a rise in blood pressure (presumably through the effects of the renal pressor substances).

The gluco-corticoids inhibit the production of arteriosclerotic changes (especially periarteritis and hyalinosis); they also inhibit the excess proliferation of fibrous tissue and intercellular protein deposition—these effects are antagonistic to those of the mineralo-corticoids.

There is also a marked anti-allergic and anti-histaminergic action of the gluco-corticoids, the mechanism of which is as yet not understood.

The true complexity of the pituitary—A.C.T.H.—adrenal relationship is not even indicated in the above discussion. Certain pituitary extracts produce a gluco-corticoid type of reaction, others a mineralo-corticoid type. Selye believes that this variability in pituitary response may be due to an "X factor"—a specific pituitary principle which qualitatively alters the action of A.C.T.H., rendering it mineralo-corticotrophic. Therefore, in response to stress, the pituitary itself may discharge predominantly gluco-corticotrophic or mineralo-corticotrophic principles.

The MINERALO-CORTICOIDS affect mineral and water metabolism; the blood volume is increased, resulting in a rise in blood pressure. There is no evidence of a direct vasopressor action. Severe lesions of the kidney are produced by the administration of mineralo-corticoids, the end result being nephrosclerosis. The probable mechanism is an increase in the production of renal pressor substances (especially through some direct functional effect upon the convoluted tubules); subsequent damage to the nephron results in an increased endocrine activity of the kidney. This, combined with a decreased inactivation of the renal pressor substances by the kidney, produces a hormonally induced renal hypertension. This then affects the blood vessels, first causing a functional vasoconstriction, but later resulting in permanent arteriosclerotic changes (especially periarteritis nodosa and hyalinosis), with a consequent permanent increase in peripheral resistance and blood pressure. The above effects are augmented by a high salt diet, but inhibited by the administration of ammonium chloride.

Both types of corticoids act upon the anterior lobe of the pituitary, inhibiting the production of A.C.T.H. (and probably of the X factor). The administration of exogenous A.C.T.H., mainly gluco-corticotrophic in nature, acts freely upon the adrenal cortex, which it stimulates to produce increased amounts of gluco-corticoids. These inhibit the formation of A.C.T.H. by the pituitary.

The action of cortisone is somewhat different. Composed mainly of gluco-corticoids, it depresses the activity of the adrenal cortex, but it also depresses the production of A.C.T.H. and the X factor in the pituitary. Both substances, therefore, result in a gluco-corticoid type of reaction.

The foregoing discussion has dealt with the general adaption syndrome as a physiological part of our reaction to the stresses of everyday living. However, if any derailment of the mechanism occurs—be it hyperfunctioning, hypofunctioning, or abnormal functioning—the

so-called "diseases of adaption" occur. Because of the complexity of the mechanism, damage at different levels will result in widely differing manifestations of disease. For this reason, Selye believes it possible to explain such dissimilar entities as rheumatoid arthritis, periarteritis nodosa, allergies, certain types of diabetes and hypertension, as having a common aetiology. The effects of the various conditioning factors are also of great importance in explaining the polymorphism of symptoms.

SUMMARY

1. The concept of a general defensive reaction to stressing situations is not new with Selye, but he has given it a clearer statement and a more definite form.

2. Any severe systemic stress elicits damage and defence. The latter is always an essentially similar syndrome (termed the general adaption syndrome—G.A.S.), with general manifestations.

3. The G.A.S. develops in three stages: the Alarm Reaction (A.R.), the Stage of Resistance (S.R.), and the Stage of Exhaustion (S.E.).

4. Defense is conditioned by such factors as heredity, pre-existing disease, and diet.

5. Defense is carried out by the nervous system and by the endocrine system; the most important component of the latter is the pituitary adrenal mechanism.

6. Prolonged adaption or abnormalities of adaption can cause disease.

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HYSTEROSALPINGOGRAPHY

N. C. KERBEL, B.A., 5T1

INTRODUCTION

HYSTEROSALPINGOGRAPHY is the visualization of the uterine cavity and the lumina of the Fallopian tubes by means of an X-ray following the injection of a radio-opaque substance through the internal os.

Despite the fact that the technique is relatively simple and has been known for more than three decades, X-ray studies of the female generative tract have lagged far behind radiography as applied to other hollow organs.

HISTORICAL NOTES

Only rarely does it happen in medical science that one man's name is associated with an important discovery and that his continuing efforts remain through the years as the outstanding achievement in a particular field. To Dr. I. C. Rubin of the Mount Sinai Hospital in New York has befallen this great honour.

His original communication (1) in 1915 on "X-ray Diagnosis in Gynecology" is a model of conciseness, clearness and completeness. In it he traces his thoughts, animal experimentation and finally clinical trial with the intrauterine injection of a radio-opaque substance into the uterine cavity. So thorough and painstaking were Rubin's original investigations and observations that little remained for the subsequent investigators to reveal. It is high tribute to Rubin's monumental piece of work that the technique he first described is still used almost unchanged after 35 years.

TECHNIQUE

The patient is instructed to take a cathartic the night before and a cleansing enema on the morning of the examination. She is placed on a table equipped with a Bucky diaphragm and stirrups. Robbins (2) recommends that a scout film of the abdomen should be taken prior to instillation of the radio-opaque medium into the uterine cavity.

Following the inspection of the flat film the patient is placed in the lithotomy position. The vulva is scrubbed. The cervix is exposed, any mucus present in the cervical canal is removed by suction and the medium is then introduced by means of a uterine cannula and syringe with mercury manometer attached. The apparatus, as manufactured by the Becton-Dickson Co., is called a Pressometer. The amount used depends on the particular medium injected and on the size of the uterus, but it is generally less than 7 c.c. The pressure of the injection should never exceed 160 m.m. of mercury.

Pain is a danger signal. If the entire procedure is not painless, the injection must be stopped at once, regardless of the pressure and the amount injected because the source of the pain is tubal or uterine distension or peritoneal irritation, which are to be avoided.

A definite refinement in technique was introduced by Hyams.(3) His method consists of the injection of fractional amounts of the opaque medium into the uterine cavity; films are taken after each injection. This technique is particularly useful in demonstrating small intrauterine lesions.

Depending on the indications for the radiographic study, the opaque substance may be visualized by various means. Some authors prefer to follow the course of the uterine filling by fluoroscopy; others take repeated X-ray films as the medium ascends the generative tract; still others stress the importance of following uterine evacuation. In any case, it is generally agreed that one picture is insufficient and, just as in radiography applied to the gastro-intestinal tract, a series of X-rays must be taken.(4)

RADIO-OPAQUE MEDIUM

If there is any one factor which has held back the expected progress of hysterosalpingography, it is probably the difficulty in finding a suitable medium for intra-uterine injection. Rubin (1) originally used Collargol (colloidal silver) in 5 and 10 per cent strengths and found that although this gave a good contrast on the X-ray plate, it had the distinct disadvantage of remaining inspissated within the normal tubal lumen. Consequently, Rubin (5) substituted the halogen salts for the same purpose, using sodium bromide and thorium sodium citrate in various concentrations. The resulting X-ray shadows were more or less satisfactory but the injection was attended by or followed by pain and irritation.

Bendick and Rubin (6) first used Lipiodol in 1924 and found that it was a decided improvement upon the halogen salt solutions. It was less irritant and had the virtue of yielding excellent contrast shadows. However, increasing use of Lipiodol on a large scale demonstrated certain undesirable results which were inevitable by reason of its chemical properties.(7) It required months and even years for its disappearance from the body and when trapped in tight places, such as at tubal strictures and stenoses, it was found to produce foreign body granulomata which resulted in encystments, pseudotubercles, and adhesion. Also, it may cause subsequent errors in diagnosis if future films are taken.

In 1941, Rubin and his co-workers developed Rayopake which is a water-soluble opaque material. It absorbs rapidly and completely, gives a dense shadow and has many advantages. A small amount can be used to coat the uterine surface and gives a mucosal pattern similar to that in the X-ray study of the stomach and intestines. As little as 2 c.c. will give a satisfactory film. Rayopake has, however, the disadvantage of being irritating when it reaches the peritoneal cavity and causes symptoms of severe peritoneal irritation.

It appears obvious from the above remarks that none of the media available are perfect. In view of this, Bendick (8) has adopted a procedure, by no means generally accepted, of using different opaque media according to the test he wishes to perform. Thus, if the examination is made because of sterility and exact information is required as to the condition of both Fallopian tubes, he uses Lipiodol because this enables him to take an 18 to 24 hour film. He has found that if a tube is stenosed, but not completely blocked, the lipiodol may appear in the peritoneal cavity 24 hours later. If Diodrast or Rayopake is used, this late film is useless as the material has all been absorbed. Yet women with these stenosed tubes may become pregnant and the correct diagnosis can only be made if Lipiodol is used.

If the examination is made solely for

the study of the uterus, Bendick (8) prefers Rayopake. This material coats the wall better than Lipiodol, and will outline small polyps and hyperplasia better than the other media. After the film has been taken, it can be withdrawn and a syringe full of air injected and excellent double contrast films can be taken.

APPLICATIONS TO GYNAECOLOGY

There has been a wide variety of uses to which hysterosalpingography has been applied. The most popular and practical is in the diagnosis and treatment of female infertility. Rubin (9) states that tubal patency tests in over 3,000 women complaining of sterility revealed tubal obstruction in 30 per cent. It should not be assumed that radiographic studies are the be-all and end-all in the investigation of a case of female infertility. Proper evaluation of a case demands a thorough history and a physical examination of both husband and wife, post-coital examination of semen from the vaginal pool (Huhner Test), hormonal studies with particular reference to hypothroidism, basal body temperature studies, and perhaps endometrial biopsy. Tests for tubal patency are only one stage of a complete examination.

The question as to whether tubal insufflation or hysterosalpingography should be used may arise. Air insufflation is rapid, inexpensive and gives immediate information if at least one tube is patent. With more complicated apparatus, the expert can also tell if the tube is partially blocked or spastic. Salpingograms, however, tell not only if the tube is blocked, but locate the obstruction at the fimbria or uterine end. In addition, the information obtained from the salpingogram is so definite that only a minimal amount of training is required for its interpretation.

Aside from its purely diagnostic value, most authors are convinced that the procedure has a definite place in the therapy of female sterility and many instances are recorded of gestation following salpingography. With this in mind the test should be performed about 1 week prior to ovulation (as determined by daily body temperatures). Apparently, the Lipiodol has the ability to open up blocked Fallopian tubes by breaking down adhesions or displacing mucous plugs.

Other indications for the procedure are: to visualize the uterine cavity if submucous myomas, polyps or even carcinoma of the body of the uterus are suspected; to determine the size and shape of the uterus in extremely obese women; to determine malformations and malpositions of the body of the uterus and cervix; rarely, to diagnose an ectopic pregnancy; to diagnose an abdominal pregnancy; to determine the location and size of the uterus and tubes in the presence of definite pelvic masses.

CONTRAINDICATIONS

Greenhill (10) is of the opinion that hysterosalpingography should not be carried out in the presence of:

(1) Normal intrauterine pregnancy.
(2) Acute or subacute infection anywhere in the pelvis.
(3) Normal bleeding or abnormal bleeding.
(4) Purulent discharge from the vagina or cervix.
(5) Heart trouble or serious systemic disease.
(6) Fever from any cause.

CONCLUSION

Hysterosalpingography is a safe, harmless procedure (if properly carried out) for the investigation of many gynaecological complaints. In addition, it is of definite therapeutic value in cases of female sterility.

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WORLD HEALTH ORGANIZATION AND DRUG STANDARDIZATION

The WHO Expert Committee on the Unification of Pharmacopoeias, after taking over the work begun in the 1920's by the League of Nations, completed the first *International Pharmacopoeia* for a unified nomenclature of medical products. It contains descriptions of 200 drugs, with uniformity in the standards and names for them. The French and English editions of the Pharmacopoeia will be ready for distribution early in 1951, with a Spanish edition to follow.

* * * * * * *

Recently, the WHO Expert Committee on Biological Standardization established sixteen new biological standards, including an international standard for the adrenocorticotrophic hormone (ACTH) used in treating rheumatoid arthritis. (Thirty-nine biological preparations had previously been standardized by WHO, or, earlier, by the Health Section of the League of Nations.)

THE CAUSES OF HAEMATURIA

J. L. BRAYLEY, 5T1

JUST AS THE FIREMAN is called when smoke and flame billow forth, so the doctor is summoned when the patient passes red urine. However, whereas the fireman goes about his job and extinguishes the blaze, the doctor is apt to soothe the fears of his patient and fail to search out the cause of his complaint. Perhaps the physician has a busy practice and, being hard pressed for time, discharges the patient on treatment without a thorough examination. On the other hand, he may have a limited knowledge of haematuria and no working classification of the causes. With this latter thought in mind a brief perusal of the literature on haematuria has been made and a working classification drawn up. It will be noted that this article is not intended to be a complete discussion of all the different causes of haematuria. Instead, it is intended as something the practitioner can use as a working basis whereby he can arrive at a tentative diagnosis of the site of the bleeding and, if not the actual, at least a provisional cause of the bleeding.

CAUSES OF HAEMATURIA

EXTRA-URINARY

Haematuria may be caused by disease entirely without the genito-urinary tract:

1) SYSTEMIC INFECTIONS — rheumatic carditis, sub-acute bacterial endocarditis, and sepsis in general.
2) BLOOD DYSCRASIAS — haemophilia, purpura, leukaemia and haemorrhagic disease of the newborn.

GENITO-URINARY

a) KIDNEY

1) INFECTIONS — tuberculous or non-specific such as pyelonephritis, glomerulonephritis, and infected hydronephrosis.
2) NEOPLASMS — Wilm's tumor in childhood, papilloma or angioma of the pelvis, carcinoma, and cystic disease.
3) STONE — ninety-five per cent of calculi are opaque to X-ray. Oxalate stones and phosphate or carbonate stones of calcium and ammonium are opaque. The non-opaque stones include uric acid (in children most frequently) and the rare cystine and xanthine stones.
4) RENAL PASSIVE CONGESTION — caused by anomalies, moveable kidney or thrombosis of a renal vein. In this condition there is usually an associated low urinary output.
5) DRUGS — sulfonamides, dicoumarol, methenamine, sodium salicylate, turpentine and phenol.
6) ESSENTIAL OR IDIOPATHIC HAEMATURIA — is a term applied to haematuria of unknown origin and comprises two per cent of the total number of causes.
7) TRAUMA.
8) OTHER RENAL CAUSES which include infarction, and an otherwise uncomplicated pregnancy.

b) URETER

1) INFECTIONS — chronic uretritis including tuberculous infection,

uretritis cystica, and peri-uretral inflammation as found in appendicitis, diverticulitis, and pelvic inflammatory disease of women.

2) STONE.
3) NEOPLASM.
4) STRICTURE.
5) TRAUMA — surgical, gun shot or stab wounds.

c) BLADDER

1) CYSTITIS—acute and chronic.
2) ULCERS—either simple or tuberculous.
3) NEOPLASMS — benign or malignant.
4) VESICAL VARICOSITIES.
5) STONE.
6) TRAUMA — caused by fractured pelvis, gun shot, or blow to a distended bladder.
7) OTHER CAUSES — diverticulum, cystocoele, foreign body.

d) PROSTATE AND SEMINAL VESICLES

1) INFECTION — chronic prostatitis, vesiculitis, acute or chronic gonococcal infection.
2) Benign or malignant adenoma of the prostate.

e) URETHRA

1) INFECTION — acute or chronic, caused by the gonococcus, tubercle baccilus, or a non-specific agent.
2) STRICTURE—caused by gonococcal infection, lymphopathia venereum, or trauma.
3) POLYPS of the urethra.
4) TRAUMA—fractured pelvis.
5) OTHER LESS COMMON CAUSES—neoplasms, calculi, and foreign body.

MISCELLANEOUS

Haemoglobin, haematoporphyn, and the pigment of beets cause the urine to be red if present in sufficient concentration; these causes, however, are rare in occurrence. Haemoglobinuria is the commonest of the three and is found in such conditions as: mismatched blood transfusions, severe burns, crushing injuries, "blackwater fever" of malaria, sulfonamide intoxication, low blood pressure, and shock.

OFFICE INVESTIGATION

Every case of haematuria should be investigated thoroughly and an attempt made to establish a diagnosis. It is not the purpose here to outline a routine for examination but in brief the patient should not escape a complete history and physical examination before more technical procedures are employed. Certain facts need special consideration apart from the presenting signs and symptoms, *e.g.*, the age of the patient. In the lower decades of life infections and stones are more common than tumors, whereas tumors become more of a possibility with advancing years.

The TWO GLASS TEST is a simple office procedure which should always be performed in the preliminary examination. It is a good test for localization of the site of the bleeding, but is by no means infallible. If blood appears at the beginning of micturition only, it comes from the anterior urethra. If blood appears at the end of micturition as a rule it is from the bladder neck, trigone, or prostatic urethra. If the blood is mixed throughout the urine, it is from the kidney or the bladder. With this simple test and accompanying signs and symptoms, the physician may arrive at a

clinical diagnosis, but usually a more intensive examination is required.

It is a cardinal rule that haematuria always signifies the presence of a malignancy until proven otherwise. However, such a generalizing statement must be modified by the circumstances of the individual case. For example, an obvious case of gonococcal urethritis should not undergo a needless cystoscopic examination. But, where there is any doubt as to the cause and where there are no presenting contra-indications, the patient should undergo the gamut of tests, including cystoscopy, uretral catheterization, and intravenous pyelography before treatment is instituted. It would be almost criminal to send a man home with a bottle of medicine before a diagnosis is established.

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Health conditions in Canada in 1950 were better than ever, according to Dr. Louis I. Dublin, Second Vice-President and Statistician of the Metropolitan Life Insurance Company. The death rate declined to the lowest level in Canada's history and new low marks were established for a number of important diseases.

"The death rate in the general population of Canada in 1950 is estimated at 9.1 per 1,000 or about 1 per cent below the previous low in 1949," Dr. Dublin reported. "This is indicated by official records for a part of the year and by the virtually complete mortality record for the year among policyholders of the Company in Canada, who constitute a large cross section of the total population.

"Among the diseases which declined to new minima in 1950 were tuberculosis, pneumonia and influenza, communicable diseases of childhood, and appendicitis. In addition, both maternal and infant mortality rates were lower than ever before.

"Particularly noteworthy is the record for tuberculosis, the mortality from which among the insured declined about 6 per cent in 1950 on top of the very substantial reduction in the previous year. The 1950 death rate for the disease is barely half of what it was 10 years ago. The record for respiratory diseases was also exceptionally good. The death rate from pneumonia and influenza, among the Company's policyholders, was about one-third less than in 1949 which itself had established a new low. The reduction in the death rate from appendicitis was equally large. In the last five years alone the death rate from this condition among Company policyholders in Canada has been cut by more than 60 per cent.

"The improvement in maternal and infant mortality is especially satisfactory because the Canadian birth rate remained close to the record levels of recent years. The downward trend in infant mortality during the past decade has meant the aggregate saving of tens of thousands of infant lives among Canadian babies born during this period.

"Mortality from chronic diseases of the heart, kidneys and arteries were up very slightly last year, but when allowance is made for the increased proportion of older persons in the population this increase is wiped out," Dr. Dublin noted. "The death rate from cancer and diabetes rose but in like manner reflect in part the higher number of older persons in the population."

A PROBLEM IN DIAGNOSIS

R. D. ATKINSON, 5T1

PRESENTATION OF CASE

M.W., A THIRTEEN MONTH OLD INFANT, was admitted to the Medical Service of the Hospital for Sick Children on the 16th December, 1950. The complaint was convulsions for one and one-half hours.

One hour prior to admission the patient began to twitch about the mouth. This twitching quickly spread to the rest of the body and was likened to shivering as if cold. Generalized convulsions then occurred with the head and eyes turning to the right. It was observed that the convulsive movements were more marked on the right side. There was a slightly bluish tinge to the skin about the mouth. Attempts to control the convulsions were unsuccessful. On arrival at the Hospital the patient was still having intermittent generalized convulsions.

There was no history of convulsions or of serious illness previously. One month ago the patient fell down a flight of twelve steps but no injury was sustained and the patient has remained well. History of contact with any infectious disease was not obtained. Immunization with diphtheria toxoid and pertussis vaccine had been carried out.

The patient's mother and father had always enjoyed good health. There was no family history of convulsions, allergy, tuberculosis, or diabetes. The patient was a full-term infant, whose birth weight was 7 pounds, 9 ounces. Although the labour was a forceps delivery of an occiput posterior, there was no difficulty in resuscitation. The neo-natal period was uneventful; convulsions or cyanosis were not observed at any time. The developmental history was normal in every respect. The feeding schedule had been adequate. Oleum percomorphum was added at 3 weeks; orange juice, at 6 weeks.

Examination on admission revealed a well developed, well nourished male infant. He was very drowsy and restless with arms and legs thrashing about. Temperature was 99.6°F on admission but quickly rose to 103°F in a few hours. On physical examination the ear drums were grey and dull with a diminished light reflex. The tonsils were hypertrophied and red. The throat was very injected with hypertrophy of the posterior pharyngeal lymphoid tissue. There was no neck rigidity. Neurological examination showed the patient to be very drowsy, restless when disturbed, and a slight left facial weakness—evidence of a post-convulsive state. No other abnormalities were found.

Laboratory examination revealed a normal urinalysis; a haemoglobin level of 10.7 grams; a white blood count of 3,600. A blood smear was normal. Examination of the cerebro-spinal fluid showed it to be clear and colourless with a normal cell count; a Pandy test was negative. Blood serum calcium level was 11.2 mgms. per 100 cc. Blood serum phosphorus level was 5.1 mgms. per 100 cc. The non-protein nitrogen blood level was 31 mgms. per 100 cc. The fasting blood sugar value was 70 mgms.

SUMMARY

A thirteen month old male infant was admitted with a history of convulsions of one hour's duration. Family and past

history were non contributary. Physical examination revealed the ear drums to be dull and grey, the tonsils to be hypertrophied and red, the throat to be injected with hypertrophy of the posterior pharyngeal lymphoid tissue. Findings of post-convulsive state were observed. Laboratory investigation produced normal values.

DIFFERENTIAL DIAGNOSIS

At the time of admission we are presented with the problem of diagnosing the cause of convulsions in a thirteen month old infant. Of the many conditions which may give rise to convulsions the following occur most commonly and will be considered here:

1. Acute systemic infections.
2. Organic disease of the central nervous system.
   a. Birth injuries—traumatic intracranial haemorrhages.
   b. Infections — meningitis, encephalitis.
   c. Cerebral agenesis.
3. Tetany.
4. Lead poisoning.
5. Idiopathic epilepsy.

The investigation of an infant in convulsions should include a careful history and physical examination, a urinalysis, a lumbar puncture, a blood calcium, a blood smear, a fasting blood sugar, NPN, and X-rays of the long bones.

Acute systemic infections, such as otitis media, nasopharyngitis, enteritis, are the commonest cause of convulsions between the ages of six months and four years. One must ascertain whether the infection is extracranial (febrile convulsions) or intracranial. Diagnosis of extracranial infection is made on the basis of fever, a focus of infection, history of contact with infection, leucocytosis, normal urinalysis, normal CSF, and normal serum levels of calcium, phosphorus, and NPN.

Intracranial birth injury and congenital defects of the brain are the most frequent cause of convulsions in very young infants. *Traumatic haemorrhage* is especially likely to occur when labour is abnormal in any respect. Bleeding may be subdural, subarachnoid, intraventricular, or into the brain substance itself. Symptoms may be present at birth or may not appear for a variable period of time after delivery. When convulsions occur in the neo-natal period intracranial haemorrhage should be suspected. Associated symptoms are respiratory difficulty, slate grey cyanosis, drowsiness, failure to suck properly, and restlessness. On examination the fontanelle is full and boggy. Gross blood is obtained on lumbar puncture. *Cerebral oedema* is similar to intracranial haemorrhage clinically. In the former condition the onset is usually twenty-four hours postpartum, the fontanelle is elastic and tense, and microscopic blood is obtained on lumbar puncture. *Subdural haematomas* resulting from birth trauma commonly do not develop symptoms until months after birth. It should be suspected in any infant who develops a large head, fails to thrive, is slow to sit up, and has recurrent convulsions. Diagnosis is established by subdural tap.

Infections of the central nervous system (meningitis and encephalitis) are the probable diagnosis if there is fever, marked hyperaesthesia, nuchal rigidity, and a positive Kernig's sign. Meningismus, such as occasionally accompanies the early stages of pneumonia, scarlet fever, and certain other extracranial infections, may suggest

meningitis. Lumbar puncture must be carried out in patients with meningeal signs to obtain cerebro-spinal fluid, which can be examined for its gross appearance, cell count, protein, sugar, and chloride contents, and for the presence of pathogenic micro-organisms.

Tetany due to a deficiency in Vitamin D is a common cause of convulsions between the ages of five months and two years. Though characteristic of tetany, convulsions differ in no way from other generalized convulsive seizures, except that there may be carpopedal spasm. The latent manifestations of tetany are Chvostek's and Trousseau's signs. Laryngospasm characterized by a peculiar inspiratory crowing sound is a symptom which is associated with convulsions and carpopedal spasm. The diagnosis is based on a history of inadequate Vitamin D, the clinical manifestations, a total serum calcium of 7.5 mgms. per cent or less, and an inorganic phosphorus of normal or subnormal value. X-rays of the long bones show the characteristic changes of rickets.

Tetany of the newborn occurring in the first few weeks of life is characterized by convulsions, twitchings, pallor, cyanosis, and a reduced serum calcium combined with an elevated inorganic phosphorus. Tetany of alkalosis is associated with normal serum levels of calcium and phosphorus. It is occasionally observed in pyloric stenosis and high intestinal obstruction following loss of chloride ions from excessive vomiting.

Lead poisoning must be considered as a cause of convulsions in children under five years of age. The incidence in greatest during the "teething period". Latent symptoms are changes in the child's disposition, abdominal pain, anorexia, constipation, occasional vomiting, and a decrease in activity. When suspected on the basis of history suggesting ingestion of lead, lead poisoning is ruled out by a blood smear for stippling of red cells, and X-rays of the long bones.

Idiopathic epilepsy, an infrequent cause of convulsions before the third year of life, comes to be the most common aetiologic factor in later childhood. It is unwise to diagnose epilepsy under six years of age. Frequently a more positive diagnosis is made in later life. The clinical diagnosis is based on a history of recurring petit or grand mal seizures over a long period of time without obvious cause. The final diagnosis of epilepsy may be confirmed by electroencephalography. Recent studies give evidence that infants who had febrile convulsions are more likely to show epilepsy in later life.

FINAL DIAGNOSIS

1. Acute nasopharyngitis, tonsillitis, and otitis media.
2. Febrile convulsions.

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EDITORIAL

TOO MUCH PUBLICITY

The topic of Generalism versus Specialism has been a popular one for the past decade, with often elaborate publicity given to the general practitioner. The propaganda offered to glorify the family doctor has certainly been justified but has been so intensive that it may eventually throw an unfavourable light on his position in the community, and on his capabilities.

It is a fact that the attitude at this medical centre has been one in favour of generalism, as can be observed through lectures by the faculty, through convocation addresses, and through efforts of the alumni panel discussions. It is possible that this attitude is found and emphasized only at large medical centres where there are a predominance of specialists. In such a situation one is impressed by the lack of general practitioners and from this has evolved a sympathetic feeling toward them.

In undergraduate thinking the general practitioner has assumed the role of a person who has been long neglected and must receive his rightful recognition. Dances have constructed their themes around the family doctor and medical public relations has used him as the emblematic representative of the profession. Variety shows have lauded his work while making jests at the work of specialists. Expectant graduates have argued their choice of a hospital for interneship on the basis of its worth for generalism as opposed to specialism.

Even the lay public have been involved in the contagion of this publicity. It is as though someone has told them

they were spectators to a great disaster, the extinction of a fine group of medical men. They assert their desire for the return of "the old-fashioned family physician," the one who treated all their ills and knew their intimate problems.

In every case in which an attempt is made to bring generalism into the focus of popularity, the intentions are good but the attention directed to general practice is excessive. We all realize that it plays a valuable role in the complicated organization of modern medical practice. It is wise to recognize this fact. General practice should be given its proper praise. But we must not overdo the praise or we will defeat our purpose. Too much emphasis on the topic and too many variations on the one theme turns the topic into one too familiar for serious discussion and allows it to be fit only for light consideration and even for ridicule.

RECENT ACCESSIONS TO THE MEDICAL READING ROOM

Bleuler, E.:**Lehrbuch der Psychiatrie**, ed. 8. 1949.
Comrie, J. D.: **History of Scottish medicine**, ed. 2, 2 v. 1932.
Iowa State Medical Society: **One hundred years of Iowa medicine.** 1950.
Massey, A. (ed.): **Modern trends in public health.** 1949.
Schleicher, I.: **Der symptomatische Hochdruck.** 1944.
Woodman-Smith, C. B.: **Florence Nightingale, 1820-1910.** 1950.

HUMANISM AND MEDICINE

H. B. VAN WYCK*

PART XVI

SURGERY AND GYNAECOLOGY IN THE 17TH CENTURY

THE RIVALRY AND STRIFE between the physicians, surgeons, and barbers which were described in Part XII in the account of Ambroise Paré were still existent throughout the 17th century. In 1540, the English surgeons and barbers had been incorporated into one company, and not until 1745 did the surgeons shake themselves free from the barbers. In France, before the foundation of the College of St. Côme in 1515, the practitioners of medicine had been divided into a rigid caste system: a grande bourgeoisie of physicians, a petite bourgeoisie of clerical barber-surgeons, and an outcast and illiterate lay group of the latter known as barbitonsores. By inclusion in the College of St. Côme, the surgeons began to claim and assume the status, prestige, and airs of the physicians. They discarded the traditional device of three basins on their guild banner and substituted three boxes of ointment as a professional symbol. Having donned the long robe and square cap of the physician, the surgeons now claimed the right of examination over the barbers and that surgical apprentices meet a qualifying standard of "grammarian-clerks." The contemporary accounts of both physician and surgeon of the 17th century give amusing pictures of typical professional pedants and coxcombs who attempted to conceal their therapeutic futility and dangerous artifices of practice by pompous parades of pedantry and portentous technical nonsense. Both physician and surgeon with endless disputation concerning outlandish theories and treatment of disease regarded themselves as a privileged and exclusive corporation and maintained a supercilious attitude to the lower order of lay barbers. Yet this outlaw group had produced Ambroise Paré and Franco and offered little respect or submission to those claiming social and professional superiority. Indeed, each group in a ludicrous jockeying for prestige and public acclaim, presented the material for the comedy of manners ready at hand for the satirists of the stage and novel. The surgeons imitating in servile fashion the physicians, the barbers presenting a dangerous competition to the surgeons, and the physicians treating both with disdain and supercilious jealousy did not escape the caustic mockery of Molièré (1622-73). Five of his comedies present immortal burlesques of the doctors of his day. In L'Amour Médecin, Molière depicts a hilariously funny consultation which ends on the relative merits of the episcopal mule and modern horse as a mode of transportation. In Le Médicin Malgré Lui, the overwhelming importance to a physician of a glib tongue in support of pompous ignorance provides the pungent satire of the comedy. That similar conditions existed south of the Pyrenees is revealed in Le Sage's fascinating novel, Gil Blas. The

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dispute between Doctor Andros and Doctor Oquetos as to whether Hippocrates meant by "orgasmos" a "fermentation" or a "concoction" of the humors is a droll recital with a tragic background inasmuch as the patient died during the consultation, no help forthcoming from the talkative practitioners. In Doctor Sangrado, one of the novel's great creations, Le Sage has left an account probably unexaggerated, of the pitiless bloodletting which, prevalent for centuries, became rampant at this time. This example of groundless empiricism, only one of many that has dogged the progress of scientific medicine, is almost incredible to a modern generation and suggests that established scientific dogma of any age may ultimately appear ridiculous to posterity. However, the tradition-bound regular practitioners of the time often proved less worthy than the outcast clan of lay barbers who, excluded from the inner fraternity, were compelled to study nature at first hand. Through the royal decree of 1660, the barbers and surgeons were drawn into one guild. This gave improved status to the barbers, but reduced surgery generally to a humbler status. The Dean of the Paris Faculty, Guy Patin, wrote that surgeons were only "booted lackeys, an evil race of those who, florid coxcombs that they are, wear mustaches and flourish razors." During the reign of Louis XIV, the status of French surgeons was raised considerably by the success of the court surgeon, Felix, in healing the royal fistula—in—ano, which had proved obdurate to the pharmaceuticals of the physicians. Michelet considered this even "more important than the work of Paré;" and, in the same way, the royal patronage in engaging the accoucheur Clement for attendance on Mde. de Maintenon gave needed prestige to male midwifery.

In Germany, professional practice lagged behind her more progressive southern neighbours. The lowered condition of the art and science of medicine was the result of the havoc wrought by the thirty years war. Fabry of Hilden seems to have been the only educated surgeon. Most of the doctors were little more than itinerant beggars, among whom masqueraded as healers, quacks of all sorts, uroscopists, chiropodists, crystal gazers, cataract-couchers, and lithotomists. These charlatans were common in the low countries and their preposterous antics and costumes are immortalized by the Dutch and Flemish artists of the time.

Among the strangest of these cults were those who pretended to cure mental disorders by the imaginary removal of a stone from the head. A superficial incision would be made in the scalp and at intervals, punctuated with the screams of the patient, palmed stones were cast into an adjacent receptacle. These stone drawers appear on the canvasses of Frans Hals Jr. and Teniers. Indeed, a unique feature of Dutch pictures is the frequency with which these ridiculous though picturesque imposters are therein recorded.

More barbaric still was the state of medicine generally in Russia. The prospect of having their throats cut if they failed to cure did nothing to encourage foreign physicians to settle in the barbarian North until Peter the Great succeeded to the throne of the Czars in 1689. This more enlightened monarch did much to encourage scientific progress generally and many adventurous physicians were emboldened to take up their

abode in the larger cities of Russia. In the annals of Russian medicine, we find the same superstitions of the time as obtained throughout Europe and it would have ill behooved a resident of London or Paris to have drawn odious comparisons with the physicians of St. Petersburg in the scientific basis of the practice of medicine. The same traditional polypharmacy and the same credulous employment of quacks were found everywhere throughout Europe. To refer to the practice of medicine in Russia of the 17th century as comparatively barbaric refers more to the political and social conditions of that semi-oriental country.

In America, in the English and Dutch settlements, there were among the immigrants, physicians and surgeons. Although Harvard College was founded in 1636 and the College of William and Mary in 1693, most native born practitioners acquired their training in Leyden, Oxford or Paris. Many of these New England physicians took on as a second vocation, the preaching of the gospel. A young aspirant of surgery, however, was bound by an indenture as an apprentice; and, while attending at the same time to his master's horse, he learned how to perform the usual bleeding, cupping, purging, and drugging. In the new world, the medieval strife between the physician and surgeon began to disappear, as the doctor who might penetrate far into the forests of the colonies had naturally to be ready for any emergency whatsoever. These emergencies might also have been obstetrical; although, for the most part, midwifery was in the hands of women. Even the practitioner whose training had been only that of a physician had to become a self-taught surgeon in the setting of bones and the treatment of the frontier injuries of Indian warfare. It may be noted that at this time "American medicine acquired that eminently practical tendency which has been its chief merit and of which we have no reason whatever to feel ashamed. That the profession soon developed a certain esprit de corps (backed up by strong public sentiment) is evident in that we find no records of strolling lithotomists, cataract-couchers, or other quacks in this period; that the names of no New England physicians are connected with the scandal of Salem Witchcraft (1692); and that we find records of the latter giving service to the sick poor for a remittance of taxes. Such medical legislation as the colonies had in this period was, as in the Code Hammurabi, mainly concerned with the momentous question of fees."[1]

The first hospital in the new world was erected in the city of Mexico in 1524 by Cortez. In 1639, the Hotel Dieu was established in Quebec by the Duchesse d'Aguilon and the first hospital in the United States was built on Manhattan Island in 1663. The annals of surgery in the 17th century do not disclose the progressive improvement that was being made in other fields of science. "In spite of the serenity of Shakespeare and Spinoza, the light raillery of Molière and Butler, the clear vision of Bacon or La Rochefoucauld, the lusty joie de vivre of Rubens and Frans Hals, the spirit of the 17th century was sombre and mortuary, and something of the old medieval feeling about Death, as the King of Terrors, survives in the gloomy forebodings of Pascal or the lines of the Jacobian dramatist, Shirley,

"Devouring Famine, Plague, and War,
Each able to undo mankind,

[1]Fielding H. Garrison, History of Medicine, W. B. Saunders Company, 1929.

Death's servile emissaries are."
The actual mortality from wars and epidemic diseases was as great as in the Middle Ages."[2]

Nevertheless, there were many significant figures who were struggling against the superstitions of the time to renovate the profession and bring it in line with the general upward trend of intellectual activity.

On the whole, however, it may be said that only a few among the host of the mediocre can be considered to have made any significant additions. Fabricius ab Acquapendente, and Cesare Magati, were among those who urged the importance of an increase in anatomical knowledge. Outside Italy, there was little opportunity for surgeons to learn any practical anatomy although efforts were made in France by such men as Pierre Dionis to establish anatomical dissection and practical surgical demonstrations. Wilhelm Fabry of Hilden left interesting case records which show that although he advocated scientific anatomical principles, even the most enlightened German surgeon was a prey to mysticism and the sympathetic magic found in the writing of Paracelsus. As applied to surgery, this involved a medication with "weapon salves" of the object that had produced the trauma, so that the injured patient could recover more quickly. Fabry also abandoned Paré's use of the ligature in amputation, in favour of the cautery. James Yonge, 1646-1721, in England, who is credited with the recovery of the ancient method of Heliodorus—the use of the flap in amputation—believed Paré's method of ligature was insecure. Paré himself did not point out that a ligature on an improperly dissected artery may slip and that secondary haemorrhage is apt to follow wound infection. Throughout these surgical writings appears here and there a return to the vis medicatrix naturae of Hippocrates, in the advice to meddle less and allow wounds to heal. Fabry developed considerable ingenuity in the treatment of fractures and the development of apparatus. Fabry was familiar with some of the fundamental principles of neuro-surgery, and his contemporary, Glandorp, described a successful trepanation for the draining of an intra-cranial abscess. Johann Schultes (Scultetus), 1595-1645, published an illustrated surgery in which there is a picture of a comb-like saw worked to and fro in a rocker frame, and many other practical devices appear in his work which would argue that surgical operations on the cranial vault were not uncommon for drainage of pus and the relief of haematomata. Even prophylatic trephine was often advocated to make certain that compression due to extravasation was absent. Thoracentesis was now widely advocated for empyema. In 1676, appeared a treatise on hernia by Nicolaus de Blegny which included a description of a new kind of elastic truss. Fabry advocated closing the hernial sacks with internal suture material. The 17th century saw the first efforts to develop systematic intra-abdominal surgery. There had been an occassional success in dealing with abdominal traumata, in extra-peritoneal drainage, and in forlorn and desperate obstetrical emergencies; but Paul Barbette, 1629-1699, was perhaps the first to undertake an intra-abdominal operation for other conditions. Jakob Rau, 1668-1719, is credited with a major share of the ultimate development of the lateral opera-

[2]*Ibid.*

tion of lithotomy. Fabry recommended suprapubic cystotomy. The Marian operation of perineal urethrotomy and section of the bladder neck continued in use and served for stone, for prostatic hypertrophy, and for imperforate stricture. The extirpation of carcinomatous growths, especially those of the breast became more prevalent. The complete breast, raised by transfixing ligatures or a two pronged fork, was removed by a rapid stroke with a large razor-like knife, from below upwards. There were no notable contributions to plastic surgery in the 17th century.

By the beginning of the 18th century. it may be recorded that, as in the case of medicine, surgery had made little progress beyond the status it had reached in the Hellenistic period of the Graeco-Roman world, although in matters of practical ingenuity, the post-renaissance surgeons did seem to have more to offer in therapy than their rivals. They, however, like the physicians, were making halting steps towards the recovery of the Hippocratic program of faith in nature and a rational clinical method of observation. In this, men like Sydenham were leading the way. It must also not be forgotten that the ingenious procedures of the surgeons were attended by a frightful mortality which justified only operation as a desperate last resort. Before surgery had acquired a scientific basis and could become more than this, the world had to await the sounder views on pathology and the beneficent discovery of anaesthesia in the 19th century.

During the 16th century, a few popular treatises on obstetrics, mere hand books for midwives, had appeared. The first ambitious treatises in gynaecology and obstetrics were François Mauriceau's (1637-1709) "Traité des maladies des femmes grosses" and Paul Portal's (1603-1703) "La pratique des accouchements soutenue d'un grand nombre d'observations". In England, Nicholas Culpeper brought out "A Procedure for Midwives" in London in 1651. In 1664, appeared "The Woman's Councillor or the Family Physician" and in 1665, a popular work written by Peter Chamberlen appeared, called "The Midwife's Practice or a Guide For Women".

The most notable advances in obstetrics of the century, were the revival of podalic version, the application of caesarian section to the living, and the introduction of the obstetric forceps.

(To be continued.)

ABSTRACTS

MEDICINE

Anticoagulants in Treatment of Coronary Thrombosis. J. A. Tulloch, A. R. Gilchrist, B.M.J., No. 2, 961, 1950.

The authors assess the value of anticoagulant therapy in myocardial infarction and attempt to determine the type of case most likely to benefit from this form of treatment. Of a total of 154 cases of myocardial infarction (comprising the everyday emergency to the medical ward), two series of cases are studied: (a) a control group of 84 cases treated by conventional methods, and (b) a treated group of 70 cases who receive, in addition to the standard treatment, anticoagulant therapy during the first 3 weeks after admission.

Dicoumarol, total dosage ranging from 1100 to 4200 mg. in 3 weeks' treatment, is used in this series. The majority of cases receive 2,000 to 3,000 mg. Haemorrhagic complications are treated by stopping the drug, and if severe, by administering Vitamin K, 50 mg. I. V., as a single dose, with 100-150 mg. daily by mouth.

The results of the anticoagulant treatment are assessed on the basis of: (1) Mortality rate; and (2) incidence of thrombo-embolic complications.

(1) Of the control group, 34(40.5%) died within 6 weeks of the infarct. This contrasts with the 16(22.8%) deaths among the treated group.

(2) In the control group, 24(28.6%) developed thrombo-embolic complications of one kind or another, while in the group receiving anticoagulant treatment only 9(13%) of the cases developed these complications.

The authors confirm the observation of Wright et al (1948) that the incidence of thrombo-embolic complication in myocardial infarction can be reduced by one-half with the proper use of anticoagulants, provided that strict attention is given to the established methods of therapy. The treatment appears to benefit males to a greater extent than females. Anticoagulant treatment does not shorten the stay in bed.

M. Magazanick

Laboratory and Clinical Experience with Terramycin Hydrochloride. W. D. Linsell, A. P. Fletcher, B.M.J., No. 2, 1190, 1950.

This is an early English experimental report of the work of these observers with the following results;

Terramycin is more stable than aureomycin. It is potent up to 30 days at pH 2 at 0 degrees C. The antibacterial activity is very similiar to aureomycin. It is highly effective against Gram-positive and Gram-negative cocci. It has little or no activity against viruses. No terramycin-resistant organisms developed during these experiments.

In man, experimentation showed that maximum levels were best maintained with 6-hourly doses. The maximum blood level recorded was 12.5 micrograms per ml. serum. The most effective dosage was found to be 70 mg. per kg. per day divided into four 6-hourly doses, while 50 mg. was sufficient for most cases. Exceedingly high concentrations were found in the urine occasionally as high as 750 micrograms per ml. whereas most urinary pathogens were susceptible to 10 micrograms per ml.

Terramycin levels in joint effusions and in the pleural cavity were found to be about one-half the serum level. The amount of terramycin getting into the C.S.F. was about 1 microgram per ml. on the very highest dosage.

In the feces there was a very complete change of bacterial flora in normal persons. Concentrations were as high as 1250 micrograms per ml. All organisms except Proteus are susceptible to much lower levels than this.

This report contains several results of diseases treated. 13 cases of urinary infections cleared up in 24-48 hours as was shown by sterile urine specimens. Many cases of superficial skin infections responded very well as did one case of ulcerative colitis. However one other case of ulcerative colitis did not respond at all.

Toxic symptoms in 33 cases treated were mainly gastrointestinal. 20 had no symptoms. 8 had nausea and vomiting. 9 had

transient looseness of bowels. The administration of milk with the drug cut down these symptoms and had no effect on the serum levels. Only one case had the drug stopped and this was due to severe vomiting. This patient had not been given milk with the terramycin.

E. L. Masson

Atelectasis and Bronchiectasis in Pertussis. H. W. Lees, B.M.J., No. 2, 1138-1141, 1950.

The author reports an investigation of 150 consecutive cases of pertussis admitted to hospital in 1946-47. Chest X-rays were done weekly, and when atelectasis was suspected, lateral and lordotic films were taken to verify the diagnosis. In cases showing moderate or persistent collapse, bronchography was done, except with infants under 1 year. All cases were followed until no clinical or radiological evidence of respiratory disease was present. X-ray evidence of atelectasis was found in 65 cases, chiefly in the lower lobes, particularly the left. Bronchopneumonia complicated 30 cases, but was not related to the incidence of collapse, and follow-up studies did not demonstrate the development of bronchiectasis in these cases. Bronchial dilatation occurred only in atelectatic areas, and in all cases the atelectasis resolved (usually in less than 5 weeks), and the dilated bronchi reverted to normal when the lobe re-expanded. In only 1 case did pertussis lead to persistent respiratory symptoms. In this case there was evidence of residual bronchial infection in a lobe which had been atelectatic for 18 weeks, but the lobe re-expanded, and the bronchial dilatation did not persist. The author considers that the degree of infection is the main factor militating against reversal of bronchiectasis, and that prolonged mechanical distension, while it may leave bronchi permanently dilated, is not an important factor. Treatment of atelectatic bronchiectasis in pertussis is discussed, and a trial of pneumothorax to prevent permanent damage to bronchi is mentioned.

F. M. Hill

The Manubrio-Sternal Joint in Rheumatoid Arthritis. Bogdan, A. and J. Clark, B.M.J., No. 2, 1361, 1950.

Rheumatoid arthritis usually affects synovial joints, especially those at the periphery, where considerable mobility is a feature. It is interesting to note, therefore, that the manubrio-sternal joint is not uncommonly involved in rheumatoid arthritis. This joint is of the cartilaginous type, the articular surfaces being covered by a layer of hyaline cartilage and connected by a disc of fibro-cartilage. A limited amount of movement occurs with each thoracic respiratory movement. In the early stages of rheumatoid involvement of the joint there is pain, swelling and tenderness at the joint site, and in more advanced cases radiological changes. In the five cases under discussion the pain was aggravated by respiratory movements, and in particular by coughing, sneezing and yawning. The pain may occur on exertion and may be severe enough to inhibit full inspiration. In one case it simulated angina of effort. It must therefore be distinguished from other causes of chest pain.

Radiological changes include soft tissue swelling, irregularity and narrowing of the joint space, erosion of the articular surfaces, and irregular expansion of the articulating ends of the manubrium and sternum. None of the five cases showed progression to bony ankylosis.

A. L. Halpern

Vascular Complications of Diabetes Mellitus. H. Dolger, Bulletin of the N.Y. Acad. of Med., **26:** No. 12, 1950.

The author believes that premature vascular degeneration should be considered an integral part of the clinical syndrome of diabetes mellitus, rather than a complication of it. He regards the disease as having two distinct groups of manifestations arising from a single cause and developing at different rates. In one group are the classical symptoms of diabetes due to insulin insufficiency; in the other are the manifestations of accelerated vascular damage due to an unknown mechanism. According to this theory, arteriosclerosis, hypertension and diabetes mellitus may

have a common origin with insulin insufficiency being produced only incidentally and only in susceptible individuals.

A series of 200 patients are presented with ages of onset of diabetes varying up to 49 years. Retinopathy, hypertension and albuminuria are the criteria of vascular damage. In all juveniles, most young adults, and one third of the older patients, typical diabetic symptoms preceded the degenerative changes by an average of 13 years. The rate of severity of the degeneration bore no apparent relation to the amount of insulin required or to the ability to control the glycosuria. Beyond middle age, only 34% presented themselves because of classical diabetic symptoms and 66% were asymptomatic or showed vascular change.

The author stresses the importance of searching for signs of vascular degeneration in all diabetic patients, as accelerated vascular damage is their inevitable fate regardless of the severity of the condition or its treatment. He believes that asymptomatic diabetes should be suspected in every case of peripheral vascular disease or coronary artery disease, particularly in women.

M. C. Gerstein

Dehydration Treatment of Rheumatic Fever. W. C. Copeman, L. G. Pugh, Lancet, **2:** No. 23, 1950.

Seven cases of rheumatic fever were treated by intracellular dehydration with a view to testing the hypothesis that the mode of action of salicylates (which cause a reduction of fever and tachycardia, together with the relief of pain and swelling in the affected joints during the first five days' therapy) is based on a reduction in the water content of the body cells (dehydration).

Six doses of sodium sulphate (½ oz.) were administered in a 36-hr. period during which all food and water were withheld, causing a reduction of 2 or 3 litres in body water. 50 ml. of a 30% solution of sodium chloride (15 Gm) was then injected intravenously in about 30 sec., causing a shift of water from the cells amounting to 1 litre. The doses of sodium sulphate were then continued q2h for a further 12 hrs.

Within 24 hrs. after the injection of sodium chloride there was relief of pain on movement, reduction of tenderness and swelling of the affected joints, and a fall in temperature and pulse rate. The chief points in which the clinical picture differs from salicylate treatment are the intense thirst and tingling of extremities observed in this series and the tinnitus and deafness of salicylism observed in salicylate-treated cases.

It is pointed out that reduction of symptoms in this series may be due to factors other than the alteration in the volume and distribution of body-fluids, such, as a non-specific stimulation of the adrenal cortex, and it is therefore not claimed that the factor of cellular dehydration itself which is common to both dehydration and salicylate treatment is necessarily the cause of the rapid reduction in symptoms.

A. L. Halpern

SURGERY

Adenoma of the Rectum and Sigmoid. E. W. Hauch, L. A. Buie, J. A. Bargen, L. A. Smith, Gastroenterology, **16:** 660, 1950.

Proctosigmoidoscopic examinations were performed on over 1900 patients all entirely free of such symptoms and signs as rectal bleeding, pain, anal pruritis, diarrhea, hemorrhoids, lower abdominal pain, or any recent change in bowel habit.

Rectal and sigmoidal adenomas were found to occur in 8.1% of these patients. Grouping of the patients according to age showed a progressive rise in incidence from the second to the eighth decades of life. Adenomas occurred about twice as frequently in males as in females. Of the patients harbouring adenomas 76% had solitary lesions. Of these 57% were in the sigmoid and 43% in the rectum.

Less than 1% of the adenomas were smaller than 1cm. in diameter. Two of the growths were pathologically reported as "low grade 1 adenocarcinoma in an adenoma."

Although the relative incidence of malignancy in rectal and sigmoid adenomas is still debated it is felt that nearly all, regardless of size or shape, are potentially malignant.

Proctosigmoidoscopic examination is advised as a part of "routine" physical examination in all patients over 45 years of age.

I. R. H. Bon

Evaluation of the Deep Veins Following Previous Thrombophlebitis. J. C. Luke, Arch. Surg., **61:** 787, 1950.

The authors attempted by retrograde venography to visualize the veins and the efficiency of the valves in 28 patients with a history of deep thrombophlebitis 2-25 years previously, and with one or more complications—edema, ulceration, induration and pigmentation. In 18 cases the deep veins were patent, and the injection revealed dilatation and tortuosity of the collaterals in all cases, loss of function or disappearance of the valves in the deep veins in 12 cases, and recanalization of thrombi in 6 cases. In the other 10 cases, the deep veins were partially or completely blocked, and on exploration of 4 cases, the superficial femoral vein, and to a less extent the common femoral vein were found to be a fibrous cord with the lumen reduced to minute channels in a mass of organized thrombus. The authors considered most significant their finding that the degree of venous change, from valvular damage to almost complete obliteration, had little bearing on the extent of post-phlebitic complications. The occurrence of the same complications in the cases with almost complete obliteration of the deep veins as in those with patent deep veins, they suggest, indicates that there is little value in deep vein ligation, with such improvement as occasionally follows resulting from the periarterial sympathectomy necessarily done in freeing the femoral artery.

F. M. Hill

Burns, Initial Treatment, Local and General. R. P. Osborne, B.M.J., No. 2, 1025, 1950.

Success in the treatment of burns will be greater where there is a plan of treatment from admission to discharge. Gentle washing of the burn and surrounding area using 1% cetavlon and light general anaesthesia or analgesia is carried on in a dressing room separate from the ward with the care and precautions as for a major operation. Dressings are designed to reduce the oedema and oozing and the risk of infection. Full thickness burns are grafted as soon as the slough has separated leaving firm, red, healthy granulations, or has been excised. Local treatment should not be started until there has been a satisfactory response to treatment for shock. Loss of fluid, one of the most important problems in the early treatment of burns, is combatted by firm dressings, elevation, immobilization, and the administration of plasma as indicated by the hematocrit. The anaemia which results from full thickness burns of more than 8% of the body surface may delay healing and cause the patient to make a poor response to chemotherapy. In case infection occurs, it is treated with transfusions of whole blood or packed red blood cells. The anorexia complicating burns makes it necessary to satisfy the increased protein demand by supplementing the intake with blood or plasma, and amino acids by a Ryle's tube. An adequate urinary output is required to eliminate the products of tissue breakdown. The general condition of the patient and the local condition of the wound will deteriorate if infection is not prevented or controlled. Systemic penicillin and streptomycin together with milton disinfectant is of value in mixed infections.

B. W. Hyatt

Recent Experiences with Intestinal Resection in Infants and Children. C. D. Benson, H. R. Sharpe Jr. A.M.A. Archives of Surgery, **61:** 822-833, 1950.

The authors present a series of 8 cases in infants and children where intestinal resection and immediate anastamosis were essential for their survival or cure. The cases occurred over a 3½ year period. Of this group, one infant died.

The 3 lesions requiring resection and anastamosis were:

(1) persistent omphalomesenteric duct with torsion of the terminal ileum (in a premature infant)
(2) irreducable intussuception-5 patients (1 death occurred here)
(3) Meckel's diverticulum-2 cases.

In all cases the gross and microscopic pathology are described. In the first six cases described, gangrene of the bowel was pronounced. Both cases of Meckel's diverticulum showed haemorrhage from ectopic gastric mucosa and deep peptic ulcers.

During the same period of time, 23 other infants and children were operated on and surgical reduction of an acute intussuception accomplished with no mortality.

The authors point out that although the mortality and morbidity in infants and children requiring intestinal resection have shown a progressive decrease during the past few years, nevertheless the procedure is still a formidable one. Adequate pre- and post-operative care, including intragastric suction, accurate diagnosis and good surgical judgment at laparotomy, will reduce mortality to a minimum. The one death of their series was due to lack of sufficient resection of gangrenous bowel.

F. T. H. PORTER

Congenital Atresia of the Ileum—A Report of Five Successfully Treated Cases. W. H. Snyder, J. R. Voskamp, L. Chaffin, Western J. of Surg., Obst. & Gyn., **58**: 638-642, 1950.

The authors bring their subject to the fore with the object of reducing the mortality rate of this condition. Previous to this paper, the literature contained references to only 20 successfully treated cases in the 40 years between 1910 and 1949.

Emphasis is placed on diagnosis, which is made on the basis of persistent vomiting, X-Ray, or clinical evidence of distended bowel, active peristalsis, absence of stools, failure to find vernix caseosa microscopically in the stool, dehydration and unexplained toxicity, on adequate pre-operative care consisting of gastric aspiration, I.V. fluids and blood, prophylactic antibiotics routinely; also a delay of 6 to 12 hours before operation in order to achieve bodily stability and good surgical condition.

The operation used in the series of 5 successfully treated cases consists of a right rectus incision, aspiration of the dilated proximal loop, excision of the terminal bulbous tip and the end turned in and closed, and side-to-side anastomosis of proximal and distal portions. If the lesion consists of intermittent atretic areas, that portion must be excised. The anastomosis is tested by injecting air into the region and watching for bubbles at the suture line when saline is dropped over it. The remainder of the bowel is examined for potency and 1 gram Streptomycin injected into the bowel. The wound is closed.

Post-operative care consists of gastric suction for 24-48 hours, liquids and soft solids by mouth, supportive fluids, and prophylactic antibiotics.

W. FRIEND

Vascular Changes in the Decidua Associated with Eclamptogenic Toxaemia of Pregnancy. P. M. Zeek, N. S. Assali, Am. J. of Clin. Path., **20**: No. 12, 1950.

The authors examined the uterine circulation in 232 obstetrical cases which they divided into three groups: non-toxaemic, non-hypertensive group, (143 patients) non-toxaemic, hypertensive group, (18 patients) toxaemic group, (71 patients).

They found evidence of placental infarction in 83% of the toxaemic patients whereas it occurred in only 16% of the patients in the other two groups. This represents a highly significant correlation between infarction and toxaemia.

Their study of a variety of obstetrical cases indicated that the placenta is nourished directly from the placental bloodstream, and not by the foetal circulation. The two most common causes of infarction were acute atherosis of the decidual vessels and retro-placental haemorrhage. The atherosis occurred in 34 of the toxaemic patients, and in only 3 patients belonging to the other groups. The change occurred in the spiral arterioles and venous lakes of the decidua and was characterized by the deposition of large quantities of lipid in the intimal layer which frequently obstructed the lumen. The cause of the acute atherosis is unknown but is probably a local factor, since the lesions are limited to the decidual vessels and rapidly regress after delivery.

J. S. SPEAKMAN

A Simple Accurate Pregnancy Test. H. A. Schwartz, Am. J. Obst. and Gyn., **59:** 213-216, 1950.

The author describes a simple and accurate pregnancy test based on Zondek's findings that bleeding may be produced in an ammenorrheic patient by giving two daily injections of 2.5 mg oestradiol benzoate and 12.5 mg progesterone. The author feels that there is no reason why a pregnant woman should bleed after this treatment, which is much the same as is used in the prevention of abortion. He therefore gives the above dosage on three successive days, after which the non-pregnant woman should bleed within a week and there should be no change in the pregnant woman. Fifty-six patients were tested with 100 percent accuracy; twenty-six who were not pregnant had bleeding, while thirty who were pregnant had no bleeding.

H. Axelrod

OTOLARYNGOLOGY

Treatment of External Otitis: A Simple and Effective Technique. Irving L. Ochs, J.A.M.A., **142:** 1361, 1950.

Reports over the past ten years indicate that the common causative agent of external otitis is Bacillus pyocyaneus (Pseudomonas aeruginosa). Widely known in the treatment of external otitis is the use of dilute aluminum acetate solution but since acetic acid is known to be a bactericidal agent against B. pyocyaneus, the author proposes its additional use and is successfully treating external otitis with an aluminum acetate solution containing acetic acid of about 2% strength. He does this by first cleansing the ear of any debris or discharge, employing Hydrogen Peroxide to work these free. A cotton tampon is then inserted snugly into the canal and soaked with equal quantities of aluminum acetate and boiled household vinegar. The patient is then given a prescription for acetic acid and aluminum acetate and told to keep the tampon saturated with this and to return in 48 hours. At this time the tampon is removed and the epidermis underlying the coagulated keratinized layer is exposed by rubbing with a thin dry cotton applicator. It may be necessary to insert another tampon and repeat treatment for another 48 hours, depending on the individual case. Dr. Ochs has found that in cases where swelling and tenderness made proper cleansing difficult, sufficient relief was obtained after 24 hours to allow him to properly clean and then proceed as related above. When the acute phase has subsided, treat any underlying seborrhea according to prescription, but if underlying skin is normal, apply a fungicidal ointment generously and discharge the patient.

In the past three years, the author has by this method sucessfully treated 248 ears in 165 patients. In detailed accounts of three of the cases he illustrates that the treatment is effective even when the disease has been present from four to five years. Long continued discharge of foul green material has been stopped in a matter of hours. Following this, swelling subsides, pain is relieved and healing ensues. Providing no underlying seborrhea exists the ear will remain free of disease.

F.G.Ditchburn

Critical Exaluation of Anti-histaminic Drugs in the Common Cold. N. D. Fabiricant, A. M. A. Arch. of Otolaryn,. **52:** No. 6, 1950.

The author presents convincing evidence accumulated at leading medical centres in the United States and Great Britain to establish the fact that the common cold cannot be abolished by antihistaminic drugs. Contentions that the common cold is an allergic response to contact with the cold virus lie within the realm of hypothesis rather than within the domain of incontestable proof. Antihistaminic drugs are neither viricidal, bacteriacidal or bacteriostatic.

The bulk of published articles hailing the use of antihistaminic drugs for the common cold failed to separate the infectious cold from frequent vasomotor disturbances and from nonspecific or allergic factors. Most of the reports did not indicate proper control series and placebo therapy.

In carefully controlled studies anti-

histaminic drugs are no more effective than placebos in aborting a cold and there is no validity to the contention that antihistaminic drugs are more effective if taken within a short time after the start of the cold. Attention is called to the high incidence of side effects attributed to treatment. R. D. MONTGOMERY

A Review of the Diagnostic Problems in One Hundred Cases of Chronic Maxillary Sinusitis. R. T. Hinde, Jour. of Laryn. and Otology, **64:** No. 2, 1950.

The author presents observations made clinically and by X-ray in one hundred cases of chronic maxillary sinusitis in an attempt to find a standard interpretation of findings. In the clinical sense, chronic maxillary sinusitis was taken to mean those patients in which combinations of symptoms of nasal discharge, nasal obstruction and recurrent colds or headaches were accompanied by changes in the antral mucosa as shown by inspection, histology and radiography. The symptoms may or may not be accompanied by presence of secretions of mucus and pus at proof puncture and lavage. The condition may be infective or non-infective.

Good quality radiographs are seen to be a valuable guide in diagnosis; errors in interpretation are presented, and confirmatory evidence of antral puncture in cases of doubt is stressed. Reasons for finding a technique for obtaining a piece of antral lining to be examined histologically as an aid to diagnosis are advanced.

R. D. MONTGOMERY

Allergy of the Ear. A. Dintenfass, Arch. of Otolaryn., **51:** 582, 1950.

The author noted that allergic manifestations may affect the external ear, middle ear, Eustachian tube, internal ear and auditory nerve. The skin of the external ear may show the same allergic conditions as the skin of other parts of the body. The allergic nature of external otitis is often not suspected or diagnosed. While contact dermatitis is the most usual form of allergy of the external ear, food or drugs taken by mouth may cause eczema, urticaria or purpura.

In allergy of the middle ear the typical symptoms are intense pain, partial deafness, and tinnitus of one or both ears; the drum membrane is reddened and swollen but does not show the convexity typical of infectious otitis media. The chief problem in these cases is to determine the nature of the allergen. Allergic otitis media may also be secondary to nasal allergy, allergic rhinitis or hay fever. The patient will often have a definite history of seasonal and perennial allergic rhinitis.

Ménière's syndrome is a frequent manifestation of allergy of the inner ear. In the group of patients who showed symptoms of vertigo, tinnitus and deafness, evidence of allergy was found in 30 per cent. The best results in treatment were obtained with elimination of the allergen and histamine therapy. On the basis that a typical allergic reaction results in an increased quantity of endolymph with an increase in pressure, the author has treated a series of cases showing Ménière's syndrome and with evidence of allergy, by the administration of meralluride sodium (mercurial diuretic of low toxicity) to produce dehydration. The patients were kept on a low salt diet with limitation of fluids and the diuretic given in doses of 2 c.c. every second or third day. A case is presented by the author to demonstrate this effect. In cases of allergy of the ear the detection and treatment of the allergic condition should be combined with general otologic therapy. J. A. MCKEE

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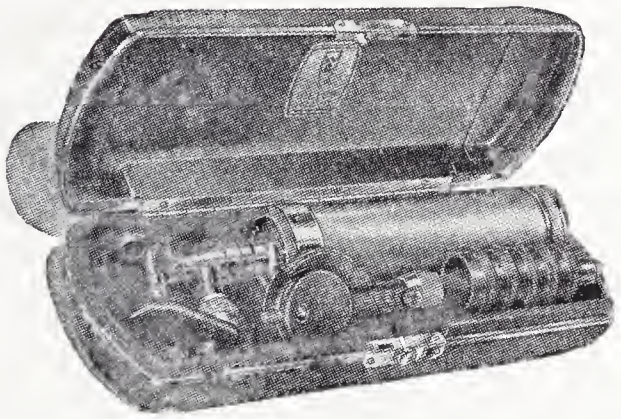

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NEWS AND NOTES

Medical Society

A new high in undergraduate entertainment will be reached with this year's Medical At Home which is being held at the Royal York Hotel on St. Valentine's Day, February 14th, at 9 o'clock.

Extending their patronage for the occasion are President and Mrs. Sidney Smith, Dean and Mrs. J. A. MacFarlane, Professor and Mrs. William Boyd, Mr. Gordon Cameron, President of the Medical Society, and Miss Betty Line, President of the Medical Women's Undergraduate Association.

St. Valentine, with the General Practitioner enthroned as the "Heart of Medicine," will set the theme for the evening. The brilliant settings of the Crystal Ballroom and the Concert Hall will be appropriately decorated to reflect the general mood; arrangements for decorations promise to produce an extravaganza of colour and creation.

A programme to please the most fastidious will greet people from all branches of Medicine. Mart Kenney's 14-piece orchestra has been engaged for the Concert Hall, and in the Crystal Ballroom Johnny Perkins will provide the music. A corps of talented undergraduate entertainers have promised a hilarious floor show featuring songs and skits reflecting the general theme. Some of the many added and unique features include a wide selection of corsages to be sold at the dance (proceeds to A.V.A.), novelty programmes and lounging facilities. A special Sherry Party is planned for the reception of representatives of other faculties and Medical Schools.

The energies and ingenuity of a host of undergraduates have combined to make this evening truly outstanding. Those deserving special commendation include Alec McIntyre, Chairman of Decorations, Ben Berman, Chairman of Entertainment, Jack Knapp, Chairman of the Programme Committee, Ken Roach, Chairman of the Hospitality Committee, and Max Irwin, Chairman of Publicity.

* * *

Athletes from Medicine are active in Hockey, Basketball and Water Polo leagues. Medsmen are especially strong in the Water Polo division. The M.A.A. Banquet for the pesentation of first colours will be held at Diana Sweets on Monday, March 26th.

* * *

The medical branch of the All Varsity Aid Programme is active in its campaign to collect Medical books, instruments and financial aid for the University of Sindt, in Pakistan. A campus-wide plan to raise an additional $3,000 includes a Skating Party and a Mardi Gras, the latter to be held in Hart House on January 25th.

* * *

Medsmen were victorious over University College in a debate held on January 11th. The resolution "That this house approves the recent action of the Alberta government in licensing the practice of medicine" went down to a 46-29 defeat. Representing the Faculty were Lawlor Loudon, 2nd Pre Meds and C. M. (Bud) Godfrey of the second medical year. A feature of the well attended debate was the active discussion from the floor by many of the attending Medsmen.

* * *

Up-to-date films, many of which are in colour, are being shown each Wednesday from 1 until 2 o'clock in the T.G.H. lecture theatre. These films, which are shown under the auspices of CAMPSI, cover a wide variety of subjects and students are reminded to take advantage of this service.

* * *

Faculty

The Annual Meeting and Convocation of the Royal College of Physicians and Surgeons of Canada was held in Montreal during December. Prominent members on the staff of the University of Toronto presented the following papers:

1. Dr. W. G. Bigelow.
   Drs. J. C. Callaghan, W. K. Lindsay, and R. C. Harrison (by invitation).

Subject: "General Hypothermia for Experimental Intracardiac Surgery."
2. Dr. E. H. Botterell.
Dr. C. G. Drake (by invitation).
Subject: "Intracranial Sepsis."
3. Dr. D. N. Henderson.
Subject: "Special Ovarian Tumors Associated with Change in Sexual Characteristics."
4. Dr. E. J. Maltby.
Subject: "The Prognosis in Ulcerative Colitis."
5. Dr. F. G. Kergin.
Subject: "Congenital Cystic Disease of Lung Associated with Anomalous Arteries."
6. Dr. W. T. Mustard.
Dr. A. L. Chute.
Subject: "Intracardiac Surgery with Extracorporeal Circulation."
7. Dr. H. E. Pugsley.
Subject: "Pulmonary Arteriovenous Aneurysms."
8. Dr. K. J. R. Wightman.
Subject: "Chemistry as Applied to Lymphomatous Disorders."

Dr. H. B. Van Wyck, Professor Emeritus of Obstetrics and Gynaecology, was guest speaker at the annual dinner and his subject was "The Role of the Humanities in Medical Education."

The Convocation ceremonies, which were held in conjunction with the annual meeting, honoured successful postgraduate students in surgery from the University of Toronto. Newly elected Fellows to the Royal College of Surgeons (Canada) are: in General Surgery—Drs. R. C. Harrison, S. Kling, E. A. Ryan and A. B. Sinclair; in Orthopaedics—Drs. R. H. Cram and F. C. Preston; in Urology—Drs. E. W. Barootes, R. R. Francis and W. K. Kerr.

* * *

A special lecture under the auspices of the Ontario Cancer Treatment and Research Foundation and the Faculty of Medicine of the University of Toronto will be given by Dr. Johannes Clemmesen. Dr. Clemmesen is the Registrar of the Danish Cancer Registry and Secretary of the Expert Committee on Cancer Statistics of the World Health Organization. He will speak on "The Endemiology of Cancer." The lecture will be given in the Banting Institute on Thursday, February 1st at 5.00 p.m.

* * *

The Phi Delta Epsilon Fraternity Lecture will be given by Dr. William Dameshek of Boston, Mass. on Monday, February 12th at 5.00 p.m. in the North Lecture Room of the Medical Building. The subject of the lecture will be "Chemotherapy of Leukemia and Leukosarcoma."

* * *

The Annual Banting Memorial Lecture will be delivered by Professor F. D. W. Lukens of the University of Pennsylvania on Wednesday, February 21st at 5.00 p.m. in Convocation Hall.

* * *

Dr. J. A. MacFarlane, Dean of the Faculty of Medicine, visited Port Arthur and Fort William recently and was guest speaker at a dinner arranged by the Alumni Association.

* * *

Papers on "Correlated Studies on the Pancreas in Diabetic and Non Diabetic Humans at Autopsy" were read before the Toronto Diabetic Association recently. Dr. W. S. Hartroft discussed the Histological Aspects and Dr. G. A. Wrenshall gave the results of Insulin Content studies.

* * *

The James Franceschini Foundation has presented $25,000 to the University of Toronto. Of this, $22,500 will form the nucleus of the William Edward Gallie Trust Fund for graduate work in surgery. The remainder will pay for publication of the Gallie Volumes, Essays on Surgey. Both projects are in honour of Dr. W. E. Gallie, professor emeritus and former dean of the faculty of medicine.

* * *

As part of a provincial-wide programme for the study of Alcoholism, the Ontario Department of Health has opened a Clinic for Examination of Alcoholics by physicians and psychiatrists. Patients requiring hospitalization will be sent to

one of the three teaching hospitals or the department's Erindale Hospital.

* * *

Dr. Arthur Purdy Stout, Columbia University, addressed the Academy of Medicine on January 9th. His topic was "Cancer, the Physician and the Public."

* * *

Dr. C. H. Best has been elected to Honorary Life Membership in the New York Academy of Science. This class of membership is limited to one hundred persons and is conferred as a recognition of eminence in scientific achievement.

* * *

Dr. H. J. Shields and Dr. R. A. Gordon have been presented with diplomas of Honorary Membership in the Cuban Society of Anaesthesiology. This announcement was made by Dean MacFarlane at a recent meeting of the Council of the Faculty of Medicine.

* * *

Early in December, Dr. O. B. Richardson lectured at the University of Buffalo Medical School on "Pathological Interpretation of Fundus Lesions."

* * *

Recent visitors to the University include Dr. A. E. Coates, Surgical Director, University of Melbourne, Australia, and Dr. V. N. Coppleson of Sidney, Australia.

* * *

ALUMNI

The Annual Meeting of the University of Toronto Medical Alumni Association was held at Sunnybrook Hospital. The executive for the 1950-51 term of office includes Dean J. A. MacFarlane, honorary president; Dr. G. Wright Young, president; Dr. T. G. Heation, past president; Dr. R. Zinkann, president-elect.

The new president, Dr. G. Wright Young, B.A., M.D., is the son of a distinguished Toronto physician. After internship and a year of postgraduate study in London, England, he established his practice in Internal Medicine in Toronto. He has been an attending physician at the Toronto General Hospital since 1934. Dr. Young served overseas from 1942-46, both in England and on the continent with No. 18 Canadian General Hospital.

In his presidential message, Dr. Young drew attention to the role the Association is playing in serving the Faculty of Medicine and the undergraduate body and he asked for continuing support in these endeavours. The Alumni at the present time are committed to the following annual projects:

1. Postgraduate Refresher Course on General Practice.

2. Panel Discussion on General Practice—an evening for the first year in Medicine in which various aspects of general practice are discussed by experienced graduates.

3. Banquet to the graduating class and to the graduates of 50 years ago.

4. Scholarship Fund — an expanding service to provide scholarships and bursaries to the amount of $1,600 annually The amount is derived entirely from annual donations and to a large degree from small amounts added to the annual fee cheque.

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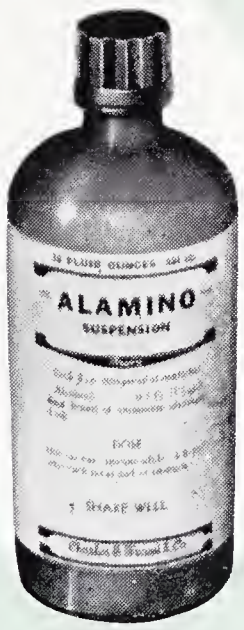

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1. Marbach, A. H.: Am. J. Obst. & Gynec. 55: 511, 1948.

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